DOCUMENT RESUME

ED 129 427 PS 008 830

AUTHOR Kinsell-Rainey, Lynn W.
TITLE Incidental Learning of Sex Role Characteristics.
PUB DATE [72]
NOTE 87p.; Master's Thesis, Southern Illinois University

EDRS PRICE MF-$0.83 HC-$4.67 Plus Postage.
DESCRIPTORS Changing Attitudes; Identification (Psychological); *Incidental Learning; *Play; Role Models; Role Perception; Self Concept; Sex Differences; *Sex Role; *Sex Stereotypes; Social Development; *Socialization; *Toys
IDENTIFIERS *Sears Roebuck and Company

ABSTRACT

The content and process of incidental learning of sex role related characteristics through play behavior was explored in a study of more than 6000 toys sold by Sears, Roebuck & Company between 1900 and 1970, as represented in their mail order catalogs. Sixty percent of all toys were sex typed by Sears. The nature of the play behavior associated with each sex's toys was examined by decade. Each toy was categorized according to 13 characteristics which were thought to be related to sex role behavior. Trend analyses of characteristic clusters were presented and projections were made from these trends to create hypothetical profiles of males and females of the future. Three basic research questions posed were: (1) Are toys sex typed? (2) Are there differences in the sex typing of male toys and female toys? (3) Are there relationships between characteristics within each sex? Conclusions are affirmative in connection with all three questions. Sears catalogs are described as a reflection of the contemporary American value system, with toys such as Sears' considered to be socializing agents of the future, providing possibly valuable information about anticipated sex role behavior in the next few decades. (BF)

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Incidental Learning of Sex Role Characteristics

Lynn W. Kinsell-Rainey

Department of Design

Southern Illinois University at Carbondale

A society survives because certain critical information is passed from one generation to the next. This body of traditional knowledge directs man's way of life and helps him preserve his culture. Through it, man socializes his young who, as adults use the same socialization context for their young.

An important element in these teachings is the cultural definition of adult sex roles. Traditional male and female roles differ between cultures but they remain essential in establishing expected behavior. Because role expectations are a natural part of social interaction and because they aid in the cooperation and efficient functioning between and among the sexes, sex role socialization is an important phenomenon to study and understand.

Sex Role Socialization

During the past sixty years, sex role socialization has developed into a new field, generating new interest and new research. This research has focused on interpersonal interaction as the primary mode for learning sex roles. This direct person-person teaching process has inspired several theories of sex role socialization. The most noteworthy

The original manuscript for this research was submitted in partial fulfillment of the requirement for the degree of Masters of Science in the Department of Design, Southern Illinois University at Carbondale. Summaries can be obtained by writing Lynn Kinsell Rainey, Ph.D., Dept. of Guidance & Ed. Psych., S.I.U. C., Carbondale, Illinois 62901

are: Social Learning Theory,[1] Cognitive Development Theory[2] and Freudian Personal Character Processes.[3] The three deal with differing but related views of sex-identification in the infant and preadolescent child, role modeling within the primary group and growing sex awareness in relationship to sex typing in the environment. The concentration on people as socializing agents has generally excluded other elements in the child's environment as important socializing agents.

Cultural Artifacts as Socializing Agents

Since World War II, studies have appeared in the literature which suggest that a child's environment and the cultural artifacts in that environment may be related to sex role socialization. Within the environment there are the cultural artifacts which adults design and manufacture for the children's use. These include games, children's TV, picture books, radio programs, school books, clothing, toys, comic books, children's room furnishings, etc.

This research paper focuses on one type of cultural artifact--the toy. Ultimately, a toy is the culmination of many people's ideas about what the child "does" when he plays and what he needs to do it with. Toys are created, manufactured, advertised, sold and bought by adults

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[1]Mussen, Paul H., "Early Sex Role Development," in David A. Goslin (ed.), Handbook of Socialization Theory and Research (Chicago, Illinois: Rand McNally, 1969).

[2]Kohlberg, Lawrence, "A Cognitive-Developmental Analysis of Children's Sex-Role Concepts and Attitudes," in Eleanor E. Maccoby (ed.) The Development of Sex Differences (Stanford, California: Stanford University Press, 1966).

[3]Williams, Thomas Rhys, "Models of Learning and the Process of Socialization," Introduction to Socialization: Human Culture Transmitted (St. Louis, Missouri: C. U. Mosby, Co., 1972).

for children. Children acquire and play with toys at the most significant age for learning sex roles. The toy designer exercises his values about appropriate sex specific play materials. The adult succumbs to the advertising for the toy, buys it, and presents it to the child. In so doing, the adult is demonstrating his choice of appropriate sex identification in toys for boys and girls. Each toy requires a range of appropriate behaviors if the child is to play with it. Therefore, when the adult presents a child with a toy he is controlling the child's behavior by the appropriate play behavior inherent in the toy and, ultimately, his psycho-social growth. According to Ruth Hartley, the child will be rewarded or at least positively reinforced for playing with the toy.[4] This, in turn, will reinforce the child's behavior and cause him to continue to play with the toy or similar toys.

Toy Studies

In the past twenty years, studies have examined how a child selects a toy, (Rabban, 1950: Sears, 1951; Sutton and Smith, et al., 1963; DeLucia, 1963) how the child reacts to the toy and uses it, (Pintler, et al., 1946; Bach, 1945; Fauls and Smith, 1956; Durrett, 1959; Moore and Ucko, 1961; Lynn and Sawrey, 1962; Gordon and Smith, 1965; Sears, et al., 1965) how the child imitates play behavior seen on film or TV (Mussen and Rutherford, 1961; Bandura, Ross and Ross, 1961 and 1965; Sears, et al., 1965; Eron, 1963; Maccoby, et al., 1957) and how the child's play behavior can be influenced by peer expectations

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[4]Hartley, Ruth, "Female Sex Role Definition and Identification," Merrill Palmer Quarterly (1964, 10), p. 10.

and authority figures (Hartup and Himino, 1959; Jegard and Walters, 1960; Borstelmann, 1961; Hethertington, 1965; Brown, 1957; Webb, 1963). These studies have shown the importance of play and toys to the learning process of children. None, however, addresses itself to the influence of toys upon the socialization of children in their sex roles.

If, as Lawrence Frank states, "Play is the only way a child learns what no one else can teach him,"[5] then what does he learn from the toys he plays with--one of the most important cultural artifacts which adults select and place in the child's environment. What has the American child born in the twentieth century learned from the toys available for him to play with? What does playing with these toys as a child teach him about how he is expected to act, both as a child and as an adult? At the conclusion of this research we will consider some answers to these questions.

Importance of Research

That there exist traditional sex associated characteristics is demonstrated by Mussen's characterization of females as, "Cooperative, unaggressive, responsive to needs of others, emotionally dependent, less responsible, nurturant, expressive, affectionate, sociable and succorant." For purposes of illustration, Mussen characterizes males in striking contrast as, "Ruthless, aggressive, severe, unresponsive, dominant, impersonal, managing, deferred to, physically strenuous, instrumental, task oriented, emotionally inhibited."[6] To what degree have such stereotopic

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[5]Beyer, Evelyn, "Foreward," in E. M. Matterson, Play and Playthings for the Preschool Child (Baltimore, Maryland: Penguin Books, 1967), p. ix.

[6]Mussen, Paul H., "Early Sex Role Development," in David A. Goslin (ed.), Handbook of Socialization Theory and Research (Chicago, Illinois: Rand McNally, 1969).

polar types as these been reflected in the toys placed in children's environments during this century? In what ways might toys encourage these tendencies and reinforce them in continued play behavior?

Do toys produced in one decade influence subsequent behavior several decades later? The re-examination within the past several decades of values and attitudes about sex role characteristics, make it important to consider the possibility of a lag time between the time a toy may be purchased for and used by a child and the time when the child is expected to exhibit adult behavior. Therefore, strong polar distinctions existing in previous decades may make it difficult for the adult to cope with a changing society which places an increasing emphasis on reducing the distinctions between appropriate male and female sex role behavior.

This research paper examines toys which influence the developing child at an impressionable time in his/her life. It examines the toys' sex-related characteristics which are those elements in the toys or in its use which can be associated with forms of behavior traditionally labelled masculine or feminine. These would include competitiveness, creativity, mobility, etc. The frequency of the different sex related characteristics over a seventy year period will present a longitudinal picture of changing cultural definitions of American sex roles as reflected in the toys adults design, produce and purchase for children.

We will look for changes in the sex related characteristics within and between sex groupings. The following questions were posed at the start of this study:

Research Questions

1. Are toys sex typed?

2. Are there differences in the sex typing of male toys and female toys?

3. Are there relationships between characteristics within each sex?

METHODOLOGY

Selection of Data Base

Toys advertised in Sears, Roebuck and Co. catalogues were chosen as the source of information to be used to answer the questions posed in this paper. There are several important advantages to using Sears as the data base. First, the catalogues were available in original or microfilmed form for the years 1900-1970. Second, they maintained a consistent style of advertising over the seventy year period which illustrated the majority of the toys with either a boy or a girl playing with them (occasionally an entire page was sex typed with a heading such as "for the boy" etc.). It was therefore possible to consider the toy "sex typed" by recording which sexed child was playing with it. (See Appendix A.) As a result, the sex typing of the toys was not a variable controlled by the researcher.

A third important reason for using Sears is its continued availability to others making it possible for anyone to replicate the study or simply observe the data in its original form. Fourth, Sears has a special listing for toys in their index, separating them from other items in the catalogue and making fine distinctions between "toy" and "non toy" for such ambiguously defined items as musical instruments and bicycles. As a result, the selection of the data was not a variable controlled by the researcher.

A fifth advantage to using Sears' toys is that they represent choices of a large percentage of the American middle class white population. Sears has always sold what America was buying; this universal appeal is what has kept Sears in business. The toys represent play materials considered acceptable and appropriate by millions of people who buy and replace toys. Sixth, because Sears catalogues are circulated nationally, their contents will not be biased or limited by regional tastes and preferences. The universality of Sears' appeal over the seventy year survey period makes it a valuable source of information about changing American attitudes.

Seventh, because the catalogues or microfilms of them were available for the entire seventy years it was possible to choose a consistent base year to represent each decade. For the years 1900, 1910, 1920, 1930, 1940, 1950, 1960 and 1970 I used the Spring-Summer and Fall-Winter catalogues. In addition, I used the Christmas catalogues for 1960 and 1970, which contain most of the toys for those two years. The eighth and last reason for using Sears is the predictability of its continuous publication in the future. The possibilities offered by a longitudinal study are enhanced when more data is regularly available in the future.

Categories and Classifications

A preliminary examination of the nature of toys and their appropriate use suggested many characteristics which could be related to role behavior. The way the toy was designed to be used, how the child would use it, where, when, with whom, in conjunction with what, for what purpose, with what result, with what gratification, if any were considered.

After pretesting, thirteen of the most prevalent characteristics

were established as categories within which to classify the sample toys. The categories and the distinctions made within them were:

1. Play Location: Was the toy designed for indoor use? Was the toy designed for outdoor use? Was the toy designed for either indoor or outdoor use?

2. Nature of Play: Does the toy require competitive play behavior from the child? Does the toy require non-competitive play behavior from the child? Could the toy be played with either competitively or non-competitively, depending upon the choice of the child?

3. Number of Players: Can the toy be played with only by an individual? Can the toy be played with by only a group? Can it be played with by either an individual or a group, depending upon the choice of the child?

4. Activity of Players: Does use of the toy require the child to be sedentary? Does use of the toy require the child to be mobile? Can the child choose to use it either in a sedentary or mobile fashion?

5. Assembly Form: Is the toy preassembled? Is the toy unassembled, involving construction as part of the play behavior the child engages in? Is the toy unassembled, requiring assembly before it can be used but its assembling unrelated to subsequent play behavior?

6. Mechanics of Toy: Is the toy mechanized; deriving its energy from a source other than the child? Is the toy unmechanized and can be used only in that condition? Other?

7. Role of Player: Does appropriate play behavior depend upon adult role model? Does appropriate play behavior depend upon other than adult role model? Does appropriate play behavior depend upon either, at the child's discretion?

8. Form of Play: Does the child learn or perform a skill in the use of this toy? Does the child learn or perform a service for others? Does the child neither learn nor perform a skill or a service but receive entertainment?

9. Purpose of Play: Does this toy engage the child in task or goal oriented play behavior, with a preconceived end-state in mind? Is the purpose of this toy to engage the child in creative or expressive activity with no end-state necessarily intended? Is the purpose of this toy other than task oriented or creative output?

10. Relationship to Environment: Does the use of this toy involve activities or duties associated with home and family relationships? Does the use of this toy involve other activities or duties than those associated with home and family relationships?

11. Source of Knowledge of Play Behavior: Is the play behavior determined by the toy; influenced by instructions, rules, prescribed amounts of play materials? Does the child invent the play behavior for playing with the toy? Does the direction of the child's play behavior come from a combination of these?

12. Consumption Requirements of Toy: Does this toy have and/or need accessories? Does this toy not have and/or need accessories, being self-inclusive?

13. Instructional Nature: Does the use of this toy involve activity associated with personal grooming or cleanliness? Does the use of this toy not involve personal habits of grooming or hygiene?

Treatment of Data

A total of 6,602 toys were examined, all Sears toys advertised in

all catalogues for the years 1900-1970. The coded data for each toy examined included: date of catalogue, number count, sex type and answer to questions posed by categories. A "tally sheet" is attached in Appendix B to illustrate the method of coding used.

A reliability test was done with an impartial person, unfamiliar with the research. The categories and classifications within them were explained to him and he evaluated forty six toys found on seven randomly selected pages. He made 572 choices out of 598 which agreed with my previous evaluations 95.7% of the time. Contrasted with the dramatic fluctuations exhibited by the data over the seventy year period, the error of 4.3% is insignificant.

The Southern Illinois University Data Processing Center ran three programs from the Social Science Statistical Package which produced frequency counts and frequency distributions for the entire sample by decade, then the toys divided by sex for each decade and finally a simple correlation between percentages of twenty nine classifications (divisions within the categories) within each sex for the seventy year period.

Correlation Test

Preparation of the data for the simple test of correlation differed slightly from the general procedure. Since the data for all toys was coded and not represented nominally, it was decided to determine correlation coefficients on the basis of the percentages for each variable for each decade. Therefore, for each sex there were eight sets of twenty nine percentages. The mixed sex sample was dropped and some of the unimportant classifications within the categories were eliminated. The twenty nine variables examined for seventy year trends were:

1. indoor
2. outdoor
3. competitive
4. non-competitive
5. individual
6. group
7. sedentary
8. mobile
9. preassembled
10. unassembled
11. unmechanized
12. mechanized
13. child role
14. adult role
15. role preference
16. skill
17. service
18. entertainment
19. task/goal
20. creative/expressive
21. pastime
22. family
23. non-family
24. child invents play
25. play behavior predetermined
26. needs accessories
27. self-inclusive
28. grooming
29. non-grooming

Reflections and Conclusions

An occasional "typing" of toys which was not included in the data notation might have produced some interesting information. I would add a category "Adult Participation." There are a number of toys depicted with a child accompanied by an adult in play behavior. The sex predominance of these toys might suggest possibilities of role modeling, adult supervision and other supplementary socializing influences acting upon either sex. It would also be interesting to know the nature of these toys which Sears sees as suitable for adult play behavior.

The selection of Sears, Roebuck and Co. catalogues for a data base controlled a considerable number of variables, afforded a broad representative sample, was convenient and efficient to work with. The simple statistical tests available and the ease of handling such a large sample made the use of computer programming ideal. The final thirteen categories used in classification of the data are satisfactorily comprehensive but in two cases they are unwieldy. The role of player category and the form of play category may have tried to cover too many possibilities, requiring continual redefining and refining until they were only barely

mutually exclusive. A replication of the study might reorganize these two categories to make them easier to interpret.. The data classified into these category divisions is important to this study but proves difficult to explain to the reader.

RESULTS

Explanation of Format and Content

In this chapter we will examine the results of the frequency counts, frequency distributions and correlation test. In order to aid the reader in following the discussion, abbreviated tables of percentages are included similar to the Tables in Appendix C but with an important difference. The Appendix C tables present the data by category and classification with divisions for male, female and mixed sex differentiation. In the abbreviated tables the data has been reorganized to present the data by sex with divisions for the classifications within each category. It is hoped that this will make the results within the sex related characteristics more easily observable.

Sex Typed Toys

The first results we observe relate to the number of toys by decade within the 6,602 toy sample which are sex typed and the sex typed percentages. Table IA shows the totals for male and female toys by decade, totals for sex typed and non-sex typed toys by decade and percentages for sex typed toys by decade.

TABLE IA

TOTALS OF SEX TYPED AND NON SEX TYPED TOYS BY YEAR

AND SEX TYPED PERCENTAGES

	1900	1910	1920	1930	1940	1950	1960	1970	TOTALS/ AVERAGE
TOTAL TOYS	214	1014	902	938	133	210	1245	2046	6602
TOTAL NON SEX TYPED TOYS	119	353	269	294	78	82	379	968	2442
TOTAL MALE TOYS	19	265	278	349	31	98	571	517	2128
TOTAL FEMALE TOYS	76	396	355	295	24	30	295	561	2032
TOTAL SEX TYPED TOYS	95	661	633	644	55	128	866	1078	4160
PERCENTAGES OF SEX TYPED TOYS	44%	65%	70%	68%	41%	60%	69%	52%	60%

Data results clearly demonstrate changes in sex related characteristics over time. We shall examine the thirteen major categories with references to the overall "general" toy sample (before sex differentiation), the male toys and the female toys.

Play Location

This first category makes three distinctions: Indoor, Outdoor and Either (suitable for both, leaving the choice to the player).

TABLE IIA

Play Location

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Indoor	0	58	50	24	16	35	37	59	35
Outdoor	95	21	39	53	55	53	23	31	46
Either	5	21	11	23	29	12	40	10	19
FEMALE									
Indoor	99	60	84	90	8	53	46	78	65
Outdoor	0	1	6	2	0	3	1	6	2
Either	1	39	10	8	92	44	53	26	33

Toys designed for exclusively indoor use represent about three fourths of the total sample at the start and finish but steadily decline during the fifty years in between. Male Indoor toys began high in 1910, their U shaped pattern low in 1940 but climbing steadily towards 1970. Female Indoor toys show a double U pattern, generally higher than the Male Indoor but dropping even lower than them in 1940 before rising towards 1970. There is a noticeable upwards trend in indoor toys for both sexes during the past thirty years. It is interesting to note that the indoor toys have been predominantly female for every year but 1940. Toys used exclusively outdoors have never constituted more than one third of the toys in any year of the survey. The tremendous fluctuation in Male Outdoor toys contrast significantly with the consistently low level of Female Outdoor toys. The outdoor toys have always been predominantly male and a majority of the male toys in 1930, 1940 and 1950 have been outdoor. Similarly, the majority of female toys for every year have been indoor.

Nature of Play

This second category makes three distinctions: Competitive, Noncompetitive and Either.

TABLE IIIA

Nature of Play

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Competitive	0	2	5	22	0	4	5	24	8
Noncompetitive	42	87	79	50	87	74	59	58	67
Either	58	11	16	28	13	22	36	18	25
FEMALE									
Competitive	0	0	1	1	0	0	0	1	.5
Noncompetitive	100	100	96	99	100	100	100	97	99
Either	0	0	3	0	0	0	0	2	.5

For both sexes, in every year, there are always more noncompetitive toys than competitive toys. As Table IIIA indicates, competitive toy levels are rising, male toys at a far greater rate than female (which remain at insignificant levels throughout). Interestingly, percentages of noncompetitive toys decreased, again with the male toys showing the greatest rate of change. Comparing the two sexes in the two areas it appears that while they both were predominantly noncompetitive, there is always a greater percentage of Male Competitive toys than Female Competitive toys in the years when there are any Female Competitive toys at all.

Number of Players

This third category makes three distinctions: Individual, Group and Either.

TABLE IVA

Number of Players

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Individual	11	53	71	70	58	45	52	62	53
Group	0	1	2	9	0	1	4	13	4
Either	89	46	27	21	42	54	44	25	43
FEMALE									
Individual	87	86	87	99	100	93	96	85	92
Group	0	0	1	1	0	0	1	1	.5
Either	13	14	12	0	0	7	3	14	7.5

Toys designed for exclusively individual use were a higher percentage than the other two types for every year of the sample before the sex differentiation. Male Individual toys, while they were rapidly increasing, were surpassed by Female Individual toys in every year. Female Individual toys were at their lowest point in 1970 indicating a possible de-emphasis on solitary play behavior for females. While both sexes were low in group toys there were always more Male Group toys than Female Group toys. The strongest tendency in the data for this category seems to be towards higher majorities of Male Individual toys.

Activity of Players

This fourth category makes three distinctions: Sedentary, Mobile and Either.

TABLE VA

Activity of Players

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Sedentary	11	79	58	39	19	39	47	64	44
Mobile	58	15	31	49	58	53	24	22	39
Either	31	6	11	12	23	8	29	14	17
FEMALE									
Sedentary	99	65	87	91	8	53	48	87	67
Mobile	0	1	5	1	0	0	7	4	2
Either	1	34	8	8	92	47	45	9	31

While sedentary toys seemed to be increasing overall, the male and female sex typed sedentary toys showed highly irregular patterns. The Female Sedentary toys always outnumbered the Female Mobile toys and are passed on the graph by the Male Sedentary toys only twice. The male toys were predominantly mobile in 1900, 1930, 1940 and 1950 but dropped off as the forty year upward swing in sedentary toys overtook them. This forty year pattern shows simultaneous increases in Male Sedentary toys and decreases in Male Mobile toys.

Assembly Form

This fifth category differentiates between Preassembled toys and Unassembled toys (where the assembling process is part of the play behavior).

TABLE VIA

Assembly Form

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Preassembled	37	75	62	71	87	81	74	75	70
Unassembled	63	25	38	29	13	19	26	25	30
FEMALE									
Preassembled	100	81	97	91	96	100	90	93	94
Unassembled	0	19	3	9	4	0	10	7	6

Most of the toys in the sample were preassembled for every year. The percentage of Female Preassembled toys was higher than the Male Preassembled toys for every year and conversely, the percentages of Male Unassembled toys were always greater than the Female Unassembled toys. For one year, 1900, the Male Unassembled toys were higher than the Male Preassembled toys but during the past forty years there was a trend in increasing Male Unassembled toys. Fluctuations in levels of Female Preassembled toys were very small.

Mechanics of Toy

This sixth category makes three distinctions: Unmechanized, Mechanized and Other (mechanized, but can be used without activating mechanical feature(s).)

TABLE VIIA

Mechanics of Toy

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Unmechanized	95	29	63	55	84	45	50	56	60
Mechanized	5	71	33	40	16	55	47	41	39
Other	0	0	1	5	0	0	3	3	1
FEMALE									
Unmechanized	100	98	92	91	96	93	96	82	93
Mechanized	0	2	8	2	4	7	4	18	6
Other	0	0	0	7	0	0	0	1	1

Percentages of mechanized toys steadily rose from one fourth to one third of the "general" sample in the seventy year period. This consistency was unmatched by the erratic fluctuations for both male and female mechanized toys.

Male Mechanized toys appeared to end in the third decade of gradual but steady decline. Female Mechanized toys rose substantially in the second forty years of the sample and were at their highest in 1970. Despite this apparent increase in Female Mechanized toys there were always more Female Unmechanized toys than Female Mechanized toys. Therefore, a strong rise in Female Mechanized toys was a highly significant alteration of the past equilibrium. The changing nature of female toys has increasingly lent itself to mechanization and this trend is not surprising.

Role of Player

This seventh category divides the way the child approaches his/her

play behavior into three groups: Adult Role, Child Role and Preference of Child (according to results desired) or Reference Group (depending upon who the child is playing with or what he perceives the expectations of his/her peer group to be).

TABLE VIIIA

Role of Player

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Child Role	0	26	30	58	87	54	22	9	36
Adult Role	10	49	20	15	3	17	23	19	20
Role Preference	90	24	50	27	10	29	55	72	44
FEMALE									
Child Role	0	23	8	7	13	3	13	10	10
Adult Role	100	75	85	81	88	83	84	40	80
Role Preference	0	2	8	12	0	13	3	72	10

The percentage of Male Child Role toys showed a sharp decline from a 1940 high and percentages of Male Adult Role toys also showed a steady decline, resulting in a consistent forty year rise in percentages of Male Role Preference toys. Female toys have always involved a great deal of adult role modeling and it has kept the percentages of Female Child Role toys low; percentages of Female Adult Role toys high. 1970 marked an unusual jump for percentages of female toys to over one half in the Role Preference category. This hint of progress in women's self-determinism in the pages of Sears, Roebuck catalogues may be a response to dramatic changes in society's interpretation of the female role during

the past 10-15 years. Up until 1970, for every year, there were higher percentages of Male Child Role toys than Female Child Role toys and higher percentages of Female Adult Role toys than Male Adult Role toys.

Form of Play

This eighth category makes three distinctions within the nature of the play process: Skill, Service and Entertainment.

TABLE IXA

Form of Play

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Skill	100	31	76	73	68	88	73	66	72
Service	0	1	1	3	26	4	3	2	5
Entertainment	0	68	23	25	7	8	24	33	23
FEMALE									
Skill	1	19	13	23	4	0	10	23	12
Service	86	77	78	64	96	93	80	44	77
Entertainment	13	4	9	14	0	7	11	33	11

Of the male toys there was always a higher percentage in the skill classification than in any other classification in this category. By comparison to the Female Skill toys there was also a higher percentage in the Male Skill classification. Similarly, percentages of female toys were predominantly service and always greater in percentage than Male Service toys. Interestingly, while the sex typed toys split consistently on those two opposite poles, the third category, Entertainment, was the second most predominant male area while female toys were secondly

skill oriented and only thirdly of the entertainment type. 1970 marked concurrent forty year trends in declining percentages of skill toys and increasing percentages of entertainment toys in the overall sample. One third of the toys in both sexes had been classified as entertainment.

Purpose of Play

This ninth category makes distinctions between Task or Goal Oriented toys, where there is a predetermined end state in the mind of the child (or in the mind of the toy designer) which is the reason for play, Creative-Expressive, when output from the child's imagination is the form and purpose of play, and Pastime when the child literally passes time with no end state anticipated and no required creative output.

TABLE XA

Purpose of Play

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Task	11	24	23	28	32	41	59	45	45
Creative	89	8	26	16	23	28	18	18	28
Pastime	0	68	31	56	45	31	24	37	27
FEMALE									
Task	0	2	9	36	8	0	32	16	13
Creative	100	93	80	53	92	100	66	56	80
Pastime	0	5	11	12	0	0	2	29	7

Recent trends in percentages of task oriented toys and creative toys were downward for the sample as the pastime classification percentage levels steadily rose. Percentages of Male Task toys rose until 1970

when they suddenly dropped but percentages of Female Task toys remained fairly low throughout the survey. The creative toys were always predominantly female but percentages of Female Creative toys declined over the past twenty years in favor of a rise in percentages of Female Pastime toys. Male Creative toy levels were always lower than Male Task toy levels just as Female Creative toy levels were higher than Female Task toy levels. Similarly, percentages of Male Task toys remained higher than percentages of Female Task toys and Female Creative toy percentages remained higher than Male Creative toy percentages. The pastime category increases are interesting to consider. Similar to the entertainment classification in category eight, the pastime classification gained toys steadily as the active-constructive types of toys declined. In 1970, the pastime toys rose to almost one half of the sample, the Male Pastime toy percentages were at their highest since 1940 and the percentages of Female Pastime toys were at their highest ever. Even the mixed sex category passed 50% for pastime toys, its highest ever. The significance of the increase in this area in combination with the increases in entertainment toys will be discussed in the conclusion.

Relationship to Environment

This tenth category differentiates between Family and Home oriented toys and Non Family and Home oriented toys.

TABLE XIA

Relationship to Environment

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Family	0	28	2	3	3	12	1	1	6
Non Family	100	72	98	97	97	88	97	99	94
FEMALE									
Family	99	78	84	87	83	83	69	60	81
Non Family	1	22	16	13	17	17	28	40	19

In 1900 toys in the general sample were evenly divided between the two classifications but this steadily changed as family and home oriented toys decreased. Female toys were always predominantly family and home oriented, but decreases in the past twenty years in this category may have contributed to the overall reduction of the family-home category. Male toys were always predominantly non family and home.

Source of Knowledge of Play Behavior

This eleventh category deals with how the child knows how to play with the toys and is divided into Child Invents Play Behavior, Play Behavior Predetermined and Either (which includes varying parts of both). Child Invents and Predetermined are considered mutually exclusive for the purposes of this classification.

TABLE XIIA

Source of Knowledge of Play Behavior

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Child Invents	5	31	28	32	42	12	37	13	25
Play Behavior Predetermined	95	62	72	68	58	88	55	85	73
Either	0	6	0	0	0	0	8	2	2
FEMALE									
Child Invents	99	97	83	56	79	87	88	53	80
Play Behavior Predetermined	1	3	17	44	21	13	12	47	20
Either	0	0	0	0	0	0	0	.2	.025

The Child Invents Play Behavior toys represented one half of the total sample in 1900 but steadily declined. Similarly, percentages of Male Child Invents and Female Child Invents toys, while fluctuating, declined most conspicuously in later years. Nevertheless, there were always higher percentages of Female Child Invents toys than Male Child Invents toys. There were also higher percentages of Female Child Invents toys for every year than Female Play Behavior Predetermined toys. In contrast, the male toys have always been predominantly in the Play Behavior Predetermined classification. There have always been higher percentages of Male Play Behavior Predetermined toys than Male Child Invents and Female Play Behavior Predetermined toys.

Consumption Requirements of Toy

This twelfth category distinguishes between those toys that Need Accessories and those that are Self-sufficient.

TABLE XIIIA

Consumption Requirements of Toy

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Needs Accessories	100	69	59	52	10	50	56	69	58
Self-Inclusive	0	31	41	48	90	50	44	31	42
FEMALE									
Needs Accessories	100	81	88	83	79	97	86	77	86
Self-Inclusive	0	19	12	17	21	3	14	23	14

The general sample showed that the Needs Accessories classification was increasing, as were the percentages of the Male Needs Accessories level while the Female Needs Accessories levels declined. We shall discuss in the conclusion the new breed of male toy which increasingly dominated the Needs Accessories classification at 70% while the female percentage levels steadily decreased.

Personal Instruction

This thirteenth and final category deals with the area of grooming. The toys either did or did not teach the child personal hygiene or provide tools for grooming.

TABLE XIVA

Personal Instruction

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970	AVERAGE
MALE									
Grooming	0	1	0	0	0	2	1	0	.5
Non-Grooming	100	99	100	100	100	98	99	100	99.5
FEMALE									
Grooming	99	12	10	42	0	100	12	36	39
Non-Grooming	1	88	90	58	100	0	88	64	61

Sex typing in this category revealed overwhelming differences. The Male Grooming toys were at levels between 0% and 3%. However, the percentages of Female Grooming toys fluctuated wildly and were rising in 1970. The female toy is more often and to a greater extent concerned with personal grooming than male toys.

Results of Simple Correlation Test

The results of same sex correlations of trends of characteristic variables which occurred at the .050 level of significance and less are listed in this chapter, and presented in matrix form in Appendix D.

TABLE XV

MALE SEX TYPED TOY CHARACTERISTIC TREND CORRELATIONS

POSITIVE CORRELATIONS

Characteristic	Level of Significance (Pearson r)
Indoor and Sedentary	.001
Sedentary and Entertainment	.001
Entertainment and Adult Role	.001
Sedentary and Adult Role	.001
Child Role and Self-Inclusive	.001
Outdoor and Mobile	.002
Outdoor and Creative	.002
Creative and Unassembled	.004
Sedentary and Adult Role	.004
Service and Self-Inclusive	.004
Needs Accessories and Unassembled	.006
Adult Role and Mechanized	.006
Sedentary and Mechanized	.007
Adult Role and Family	.007
Self-Inclusive and Preassembled	.007
Role Preference and Needs Accessories	.007
Outdoor and Unmechanized	.009
Child Role and Service	.010
Role Preference and Unassembled	.012
Entertainment and Mechanized	.013
Indoor and Entertainment	.014
Indoor and Mechanized	.015
Unmechanized and Creative	.016
Mechanized and Family	.017
Entertainment and Family	.021
Mobile and Unmechanized	.026
Indoor and Adult Role	.028
Child Role and Preassembled	.033
Creative and Unassembled	.037

TABLE XVI

MALE SEX TYPED TOY CHARACTERISTIC TREND CORRELATIONS

NEGATIVE CORRELATIONS

Characteristic	Level of Significance (Pearson r)
Sedentary and Mobile	-.001
Unassembled and Preassembled	-.001
Skill and Entertainment	-.001
Child and Needs Accessories	-.001
Mechanized and Unmechanized	-.001
Indoor and Mobile	-.002
Indoor and Outdoor	-.003
Sedentary and Outdoor	-.003
Creative and Individual	-.003
Mobile and Non Grooming	-.003
Service and Needs Accessories	-.004
Preassembled and Creative	-.004
Mobile and Entertainment	-.004
Sedentary and Unmechanized	-.005
Non Family and Adult Role	-.005
Role Preference and Self-Inclusive	-.007
Role Preference and Child Role	-.007
Preassembled and Needs Accessories	-.007
Pastime and Creative	-.007
Unmechanized and Adult Role	-.008
Mobile and Adult Role	-.009
Preassembled and Role Preference	-.011
Mechanized and Outdoor	-.012
Unmechanized and Indoor	-.012
Unmechanized and Entertainment	-.013
Non Family and Mechanized	-.013
Adult and Skill	-.013
Sedentary and Skill	-.014
Entertainment and Outdoor	-.017
Non Grooming and Outdoor	-.019
Non Family and Entertainment	-.019
Pastime and Role Preference	-.020
Mechanized and Creative	-.021
Child Invents and Needs Accessories	-.022
Indoor and Creative	-.023
Family and Skill	-.023
Grooming and Mechanized	-.026
Role Preference and Non Competitive	-.027
Creative and Sedentary	-.028
Family and Unmechanized	-.029
Outdoor and Individual	-.029
Child Invents and Role Preference	-.030
Mechanized and Mobile	-.031

TABLE XVI, CONT'D.

Characteristic	Level of Significance (Pearson r)
Unassembled and Child Role	-.032
Skill and Mechanized	-.036
Skill and Indoor	-.037
Adult and Outdoor	-.042
Outdoor and Preassembled	-.043
Child Invents and Creative	-.043
Individual and Unassembled	-.045
Skill and Non Grooming	-.047
Creative and Entertainment	-.049
Outdoor and Task	-.049
Outdoor and Pastime	-.049

TABLE XVII

FEMALE SEX TYPED TOY CHARACTERISTIC TREND CORRELATIONS

POSITIVE CORRELATIONS

Characteristic	Level of Significance (Pearson r)
Mechanized and Role Preference	.001
Pastime and Role Preference	.001
Role Preference and Play Predetermined	.002
Pastime and Play Predetermined	.002
Entertainment and Role Preference	.002
Entertainment and Pastime	.003
Unassembled and Child Role	.003
Adult and Service	.005
Adult and Family	.005
Outdoor and Mechanized	.005
Creative and Child Invents	.006
Pastime and Competitive	.006
Service and Creative	.008
Group and Unassembled	.010
Mechanized and Pastime	.010
Entertainment and Predetermined	.012
Outdoor and Competitive	.012
Outdoor and Pastime	.014
Predetermined and Competitive	.015
Mechanized and Predetermined	.018
Service and Child Invents	.018
Outdoor and Role Preference	.020
Mechanized and Entertainment	.024
Adult and Child Invents	.035

TABLE XVIII

FEMALE SEX TYPED TOY CHARACTERISTIC TREND CORRELATIONS

NEGATIVE CORRELATIONS

Characteristic	Level of Significance (Pearson r)
Family and Non Family	-.001
Service and Pastime	-.001
Child Invents and Play Predetermined	-.001
Needs Accessories and Self-Inclusinve	-.001
Grooming and Non Grooming	-.001
Preassembled and Unassembled	-.001
Adult Role and Role Preference	-.001
Group and Creative	-.001
Task and Creative	-.002
Adult and Pastime	-.002
Adult and Non Family	-.002
Service and Entertainment	-.002
Skill and Service	-.003
Preassembled and Child	-.003
Mechanical and Adult	-.005
Competitive and Noncompetitive	-.006
Service and Predetermined	-.006
Role Preference and Service	-.006
Adult and Predetermined	-.008
Creative and Predetermined	-.010
Pastime and Child Invents	-.010
Competitive and Child Invents	-.011
Skill and Creative	-.011
Competitive and Service	-.015
Adult and Entertainment	-.016
Noncompetitive and Pastime	-.016
Competitive and Creative	-.020
Creative and Pastime	-.021
Child Role and Needs Accessories	-.021
Mechanized and Family	-.022
Preassembled and Skill	-.023
Skill and Needs Accessories	-.023
Skill and Preassembled	-.023
Non Family and Needs Accessories	-.028
Group and Service	-.030
Adult and Skill	-.031
Family and Self-Inclusive	-.036
Entertainment and Creative	-.040
Entertainment and Child Invents	-.042
Preassembled and Self-Inclusive	-.043
Adult and Self-Inclusive	-.044
Mechanical and Noncompetitive	-.045
Outdoor and Adult	-.045

TABLE XVIII CONT'D.

Characteristic	Level of Significance (Pearson r)
Group and Child Invents	-.045
Unmechanical and Needs Accessories	-.045
Family and Mobile	-.050

CONCLUSION

Introduction of Areas To Be Discussed

This conclusion attempts to answer the research questions posed in the Introduction using the data results and its analysis. In addition, several observations about changing sex role characteristics in the 20th century will be introduced for consideration by the reader for future research possibilities.

Question #1

The first question asked if toys are sex typed. Through the sex differentiation between toys made by Sears, Roebuck and Co. catalogues it is obvious that toys are, in fact, sex typed. From Table IA we learn that they are sex typed 60% of the time.

Question #2

The second question asked if there are differences in the sex typing of male toys and female toys. The data in the categorization and classification of the male and female sex typed toys demonstrates clearly that difference exists.

The difference can be illustrated in several different ways. First, by decade; second, by sex and third, by classification.

Table XIX illustrates profiles of predominant characteristics for each sex by decade.

TABLE XIX

MALE AND FEMALE PROFILES OF SEX ROLES

1900

Male	Female
Outdoor	Indoor
Either	Noncompetitive
Either	Individual
Mobile	Sedentary
Unassembled	Preassembled
Unmechanized	Unmechanized
Role Preference	Adult Role
Skill	Service
Creative	Creative
Non family	Family
Play Predetermined	Child Invents
Needs Accessories	Needs Accessories
Non grooming	Grooming

1910

Male	Female
Indoor	Indoor
Noncompetitive	Noncompetitive
Individual	Individual
Sedentary	Sedentary
Preassembled	Preassembled
Mechanized	Unmechanized
Adult Role	Adult
Entertainment	Service
Pastime	Creative
Non family	Family
Play Predetermined	Child Invents
Needs Accessories	Needs Accessories
Non grooming	Non grooming

TABLE XIX, CONT'D.

1920

Male	Female
Indoor	Indoor
Noncompetitive	Noncompetitive
Individual	Individual
Sedentary	Sedentary
Preassembled	Preassembled
Unmechanized	Unmechanized
Role Preference	Adult
Skill	Service
Pastime	Creative
Non family	Family
Play Predetermined	Child Invents
Needs Accessories	Needs Accessories
Non grooming	Grooming

1930

Male	Female
Outdoor	Indoor
Noncompetitive	Noncompetitive
Individual	Individual
Mobile	Sedentary
Preassembled	Preassembled
Unmechanized	Unmechanized
Child Role	Adult Role
Skill	Service
Pastime	Creative
Non family	Family
Play Predetermined	Child Invents
Needs Accessories	Needs Accessories
Non grooming	Non grooming

TABLE XIX, CONT'D.

1940

Male	Female
Outdoor	Outdoor
Noncompetitive	Noncompetitive
Individual	Individual
Mobile	Either
Preassembled	Preassembled
Unmechanized	Unmechanized
Child Role	Adult Role
Skill	Service
Pastime	Creative
Non family	Family
Play Predetermined	Child Invents
Self-inclusive	Needs Accessories
Non grooming	Grooming

1950

Male	Female
Outdoor	Indoor
Noncompetitive	Noncompetitive
Either	Individual
Mobile	Sedentary
Preassembled	Preassembled
Mechanized	Unmechanized
Child Role	Adult
Skill	Service
Task	Creative
Non family	Family
Play Predetermined	Child Invents
Needs Accessories	Needs Accessories
Non grooming	Grooming

TABLE XIX, CONT'D.

1960

Male	Female
Either	Either
Noncompetitive	Noncompetitive
Individual	Individual
Sedentary	Sedentary
Preassembled	Preassembled
Unmechanized	Unmechanized
Role Preference	Adult
Skill	Service
Task	Creative
Non family	Family
Play Predetermined	Child Invents
Needs Accessories	Needs Accessories
Non grooming	Non grooming

1970

Male	Female
Indoor	Indoor
Either	Noncompetitive
Individual	Individual
Sedentary	Sedentary
Preassembled	Preassembled
Unmechanized	Unmechanized
Role Preference	Role Preference
Skill	Service
Task	Creative
Non family	Family
Play Predetermined	Child Invents
Needs Accessories	Needs Accessories
Non grooming	Non grooming

Table XX illustrates the "composite nature of sex roles" based on the average percentage which is predominant for each sex in each category.

The sexes listed below, as compared with each other, in the thirteen major categories, are ordered by those classifications which predominate for that sex, irregardless of how percentages in each sex compare with percentages in the other.

TABLE XX

COMPOSITE NATURE OF SEX ROLES

Indicated by average percentages which are predominant for each sex in each category.

Category	Male (%)	Female (%)
Play Location	Outdoor (46%)	Indoor (65%)
Nature of Play	Noncompetitive (67%)	Noncompetitive (67%)
Number of Players	Individual (53%)	Individual (53%)
Activity of Players	Sedentary (44%)	Sedentary (67%)
Assembly Form	Preassembled (70%)	Preassembled (94%)
Mechanics of Toy	Unmechanized (60%)	Unmechanized (93%)
Role of Player	Role Preference (44%)	Adult Role (80%)
Form of Play	Skill (72%)	Service (77%)
Purpose of Play	Task (45%)	Creative (80%)
Relationship to Environment	Non family (94%)	Family (81%)
Source of Knowledge of Play Behavior	Play Behavior (73%)	Child Invents (80%)
Consumption Requirements of Toy	Predetermined Needs Accessories (58%)	Needs Accessories (86%)
Instructional Nature	Non grooming (99%)	Non grooming (61%)

Table XXI illustrates the twenty nine selected (from thirty six) classifications and their sex affiliation between male and female percentages. (This sex alignment with classification disregards whether or not that sex predominates in that classification but, rather, points out which sex has the greater percentage within that particular classification.)

The average percentages upon which this table is based are located in Tables IIA - XIVA.

TABLE XXI

CLASSIFICATIONS SEX TYPED MALE OR FEMALE

by which average percentage is higher for 70 year period

Play Location	Form of Play
Indoor: Female	Skill: Male
Outdoor: Male	Service: Female
	Entertainment: Male
Nature of Play	
Competitive: Male	Purpose of Play
Noncompetitive: Female	Task: Male
	Creative: Female
Number of Players	Pastime: Male
Individual: Female	
Group: Male	Relationship to Environment
	Family: Female
Activity of Players	Non family: Male
Sedentary: Female	
Mobile: Male	Source of Knowledge of Play Behavior
	Child Invents Play: Female
Form of Assembly	Play Predetermined: Male
Preassembled: Female	
Unassembled: Male	Consumption Requirements of Toy
	Needs Accessories: Female
Mechanics of Toy	Self-inclusive: Male
Unmechanized: Female	
Mechanized: Male	Instructional Nature
	Grooming: Female
Role of Player	Non grooming: Male
Child Role: Male	
Adult Role: Female	
Role Preference: Male	

This lists the sexes with the highest average percentage for each classification.

Question #3

The third question asked if there are relationships between characteristics within each sex. Results of the simple correlation test which appear in Tables XV - XVIII clearly demonstrate that there are combinations of same sex characteristics which exhibit similar trends.

Male characteristics showing similar trends are illustrated in Figures 1 - 5. Female characteristics showing similar trends are illustrated in Figures 6 - 9.

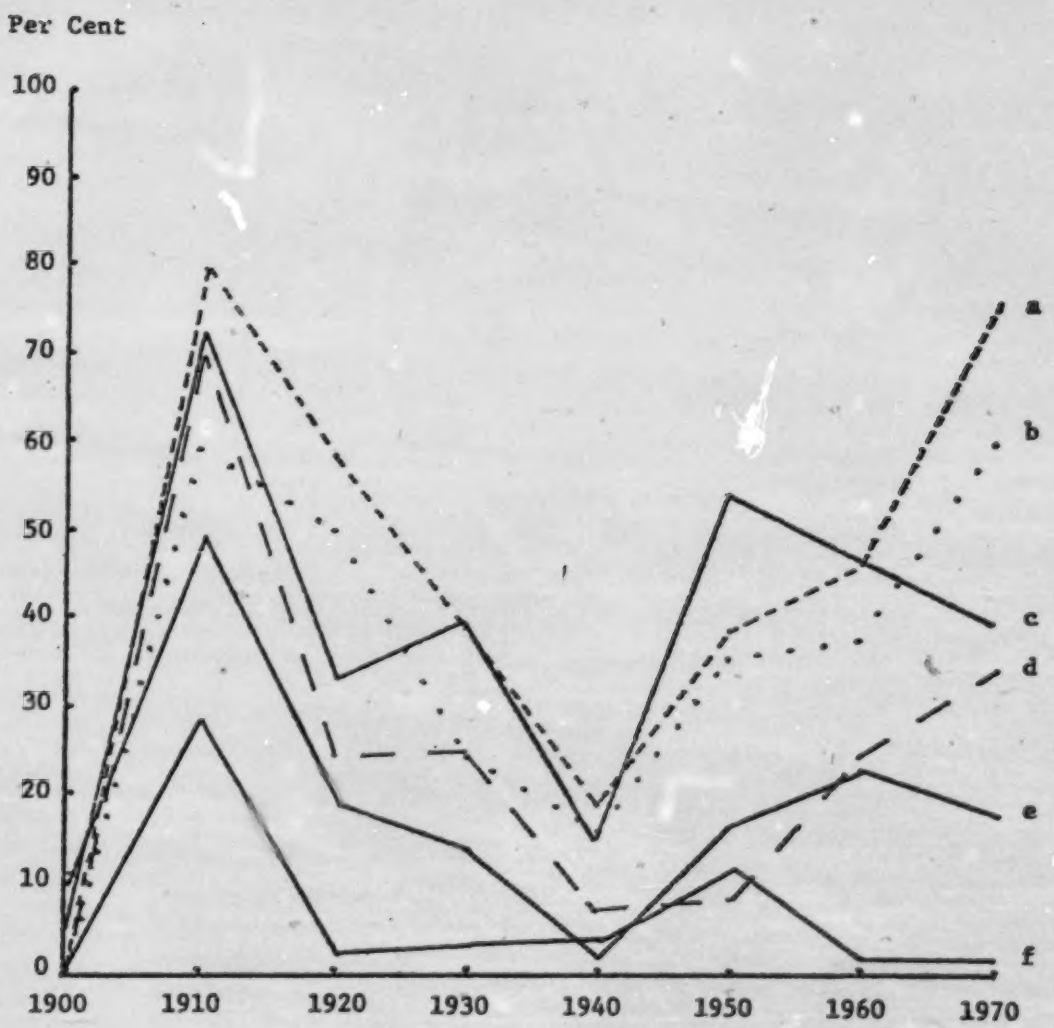

Figure 1: Male trends in: a. sedentary, b. indoor, c. mechanized, d. entertainment, e. adult, f. family.

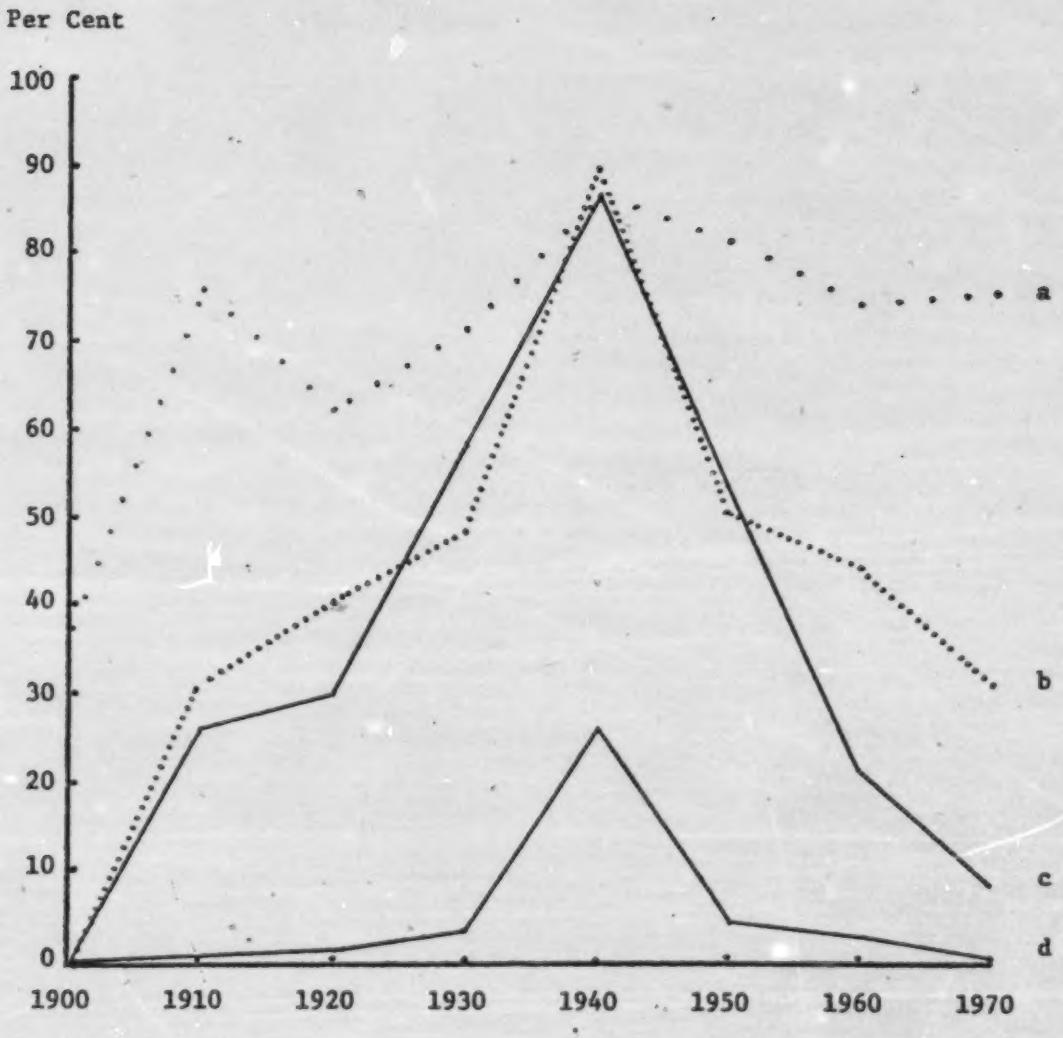

Figure 2: Male trends in: a. preassembled, b. self-inclusive, c. child role, d. service.

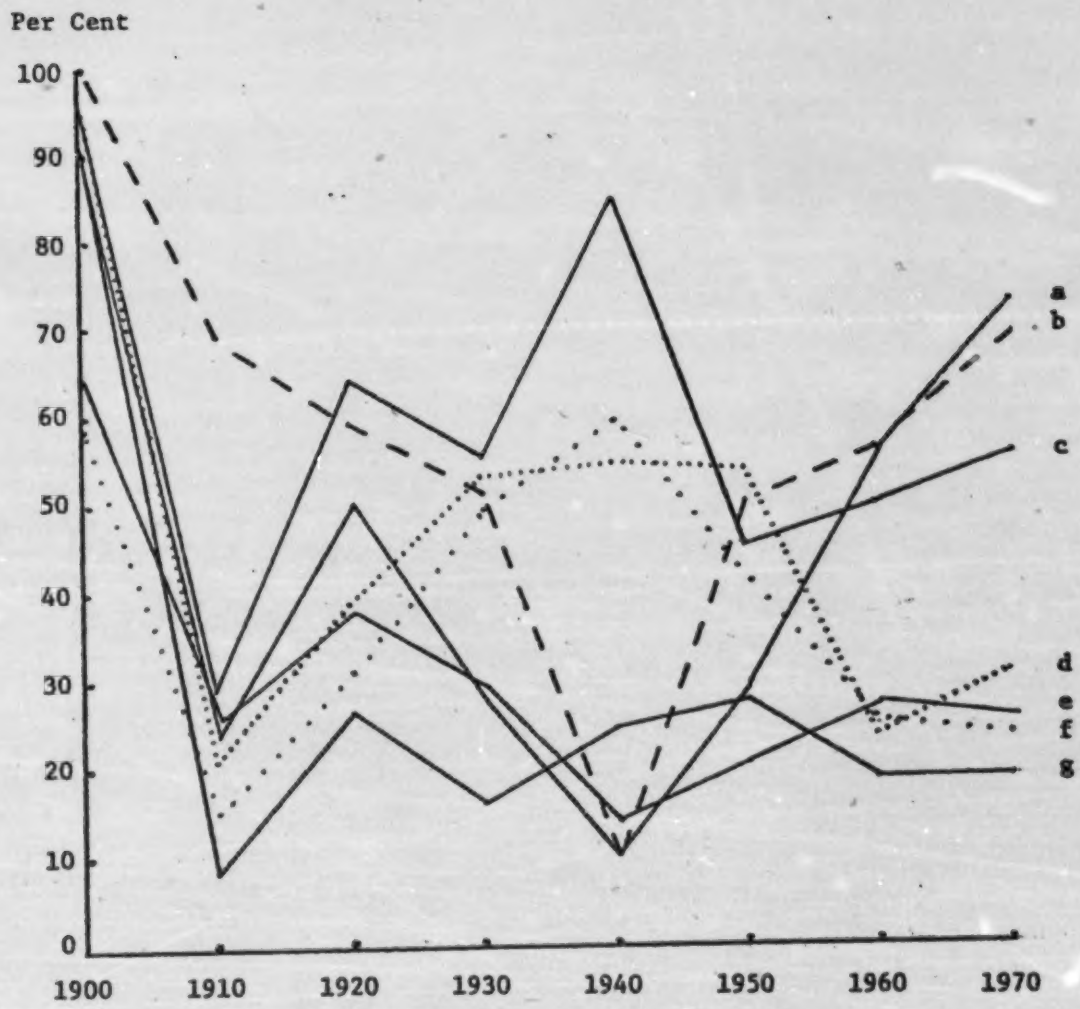

Figure 3: Male trends in: a. role preference, b. needs accessories, c. unmechanized, d. outdoor, e. unassembled, f. mobile, g. creative.

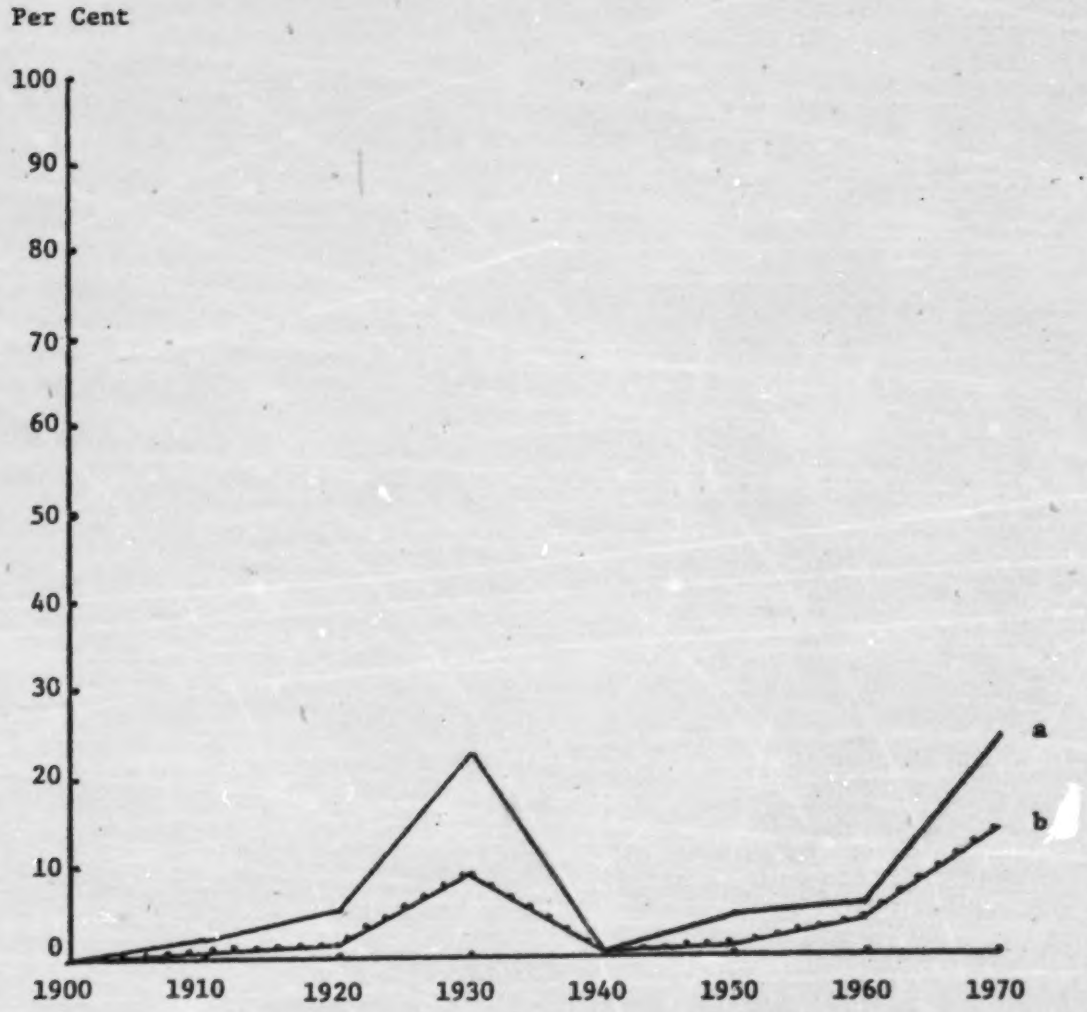

Figure 4: Male trends in: a. competitive, b. group.

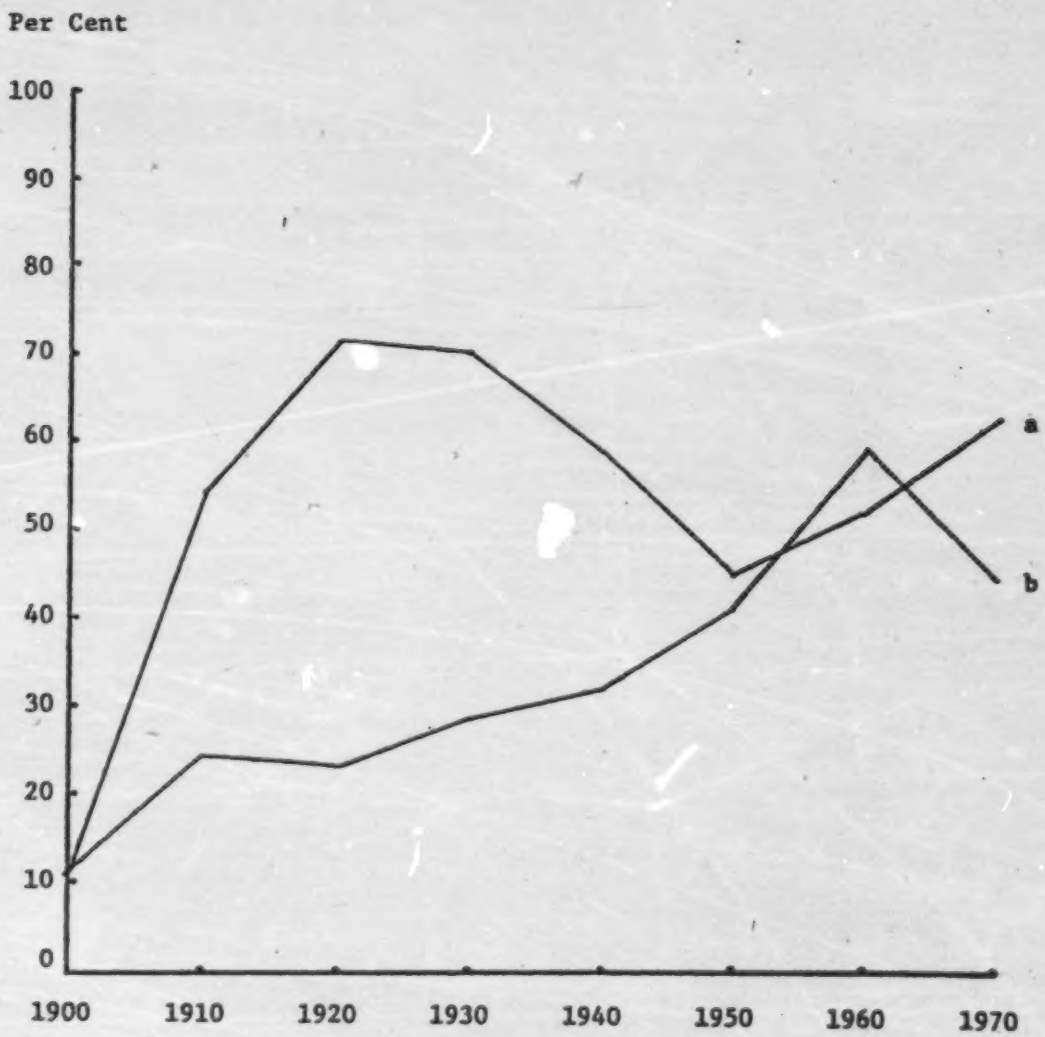

Figure 5: Male trends in: a. individual, b. pastime.

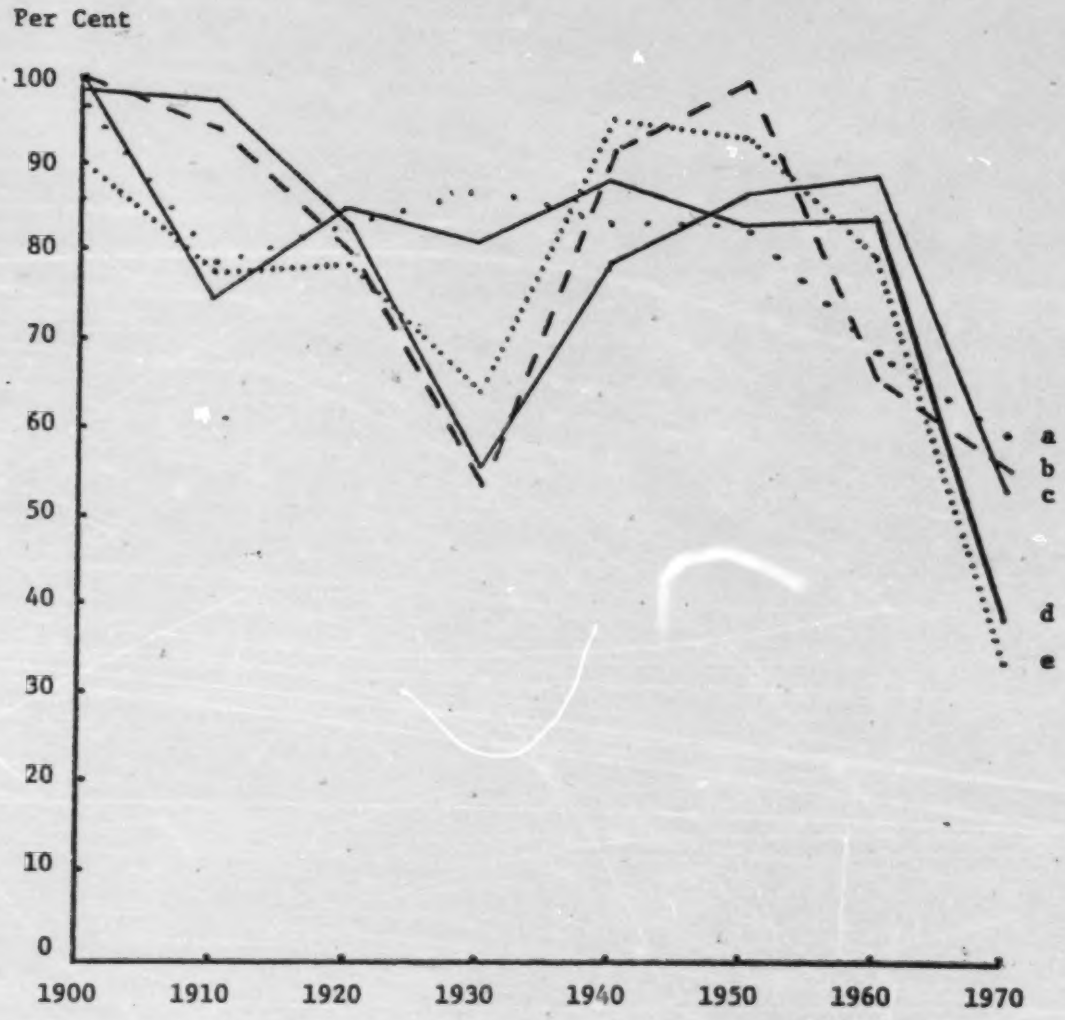

Figure 6: Female trends in: a. family, b. creative, c. child invents play, d. adult role, e. service.

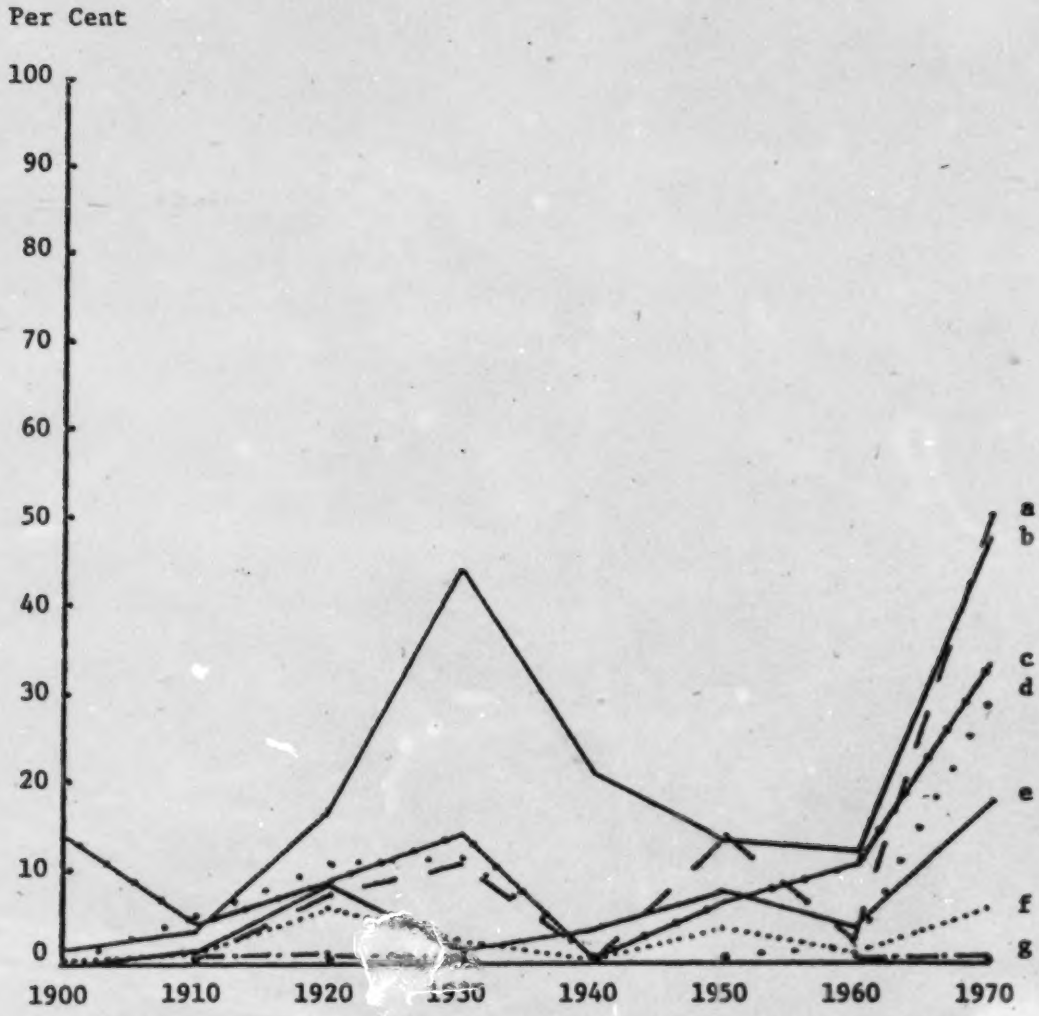

Figure 7: Female trends in: a. role preference, b. play behavior predetermined, c. entertainment, d. pastime, e. mechanized, f. outdoor, g. competitive.

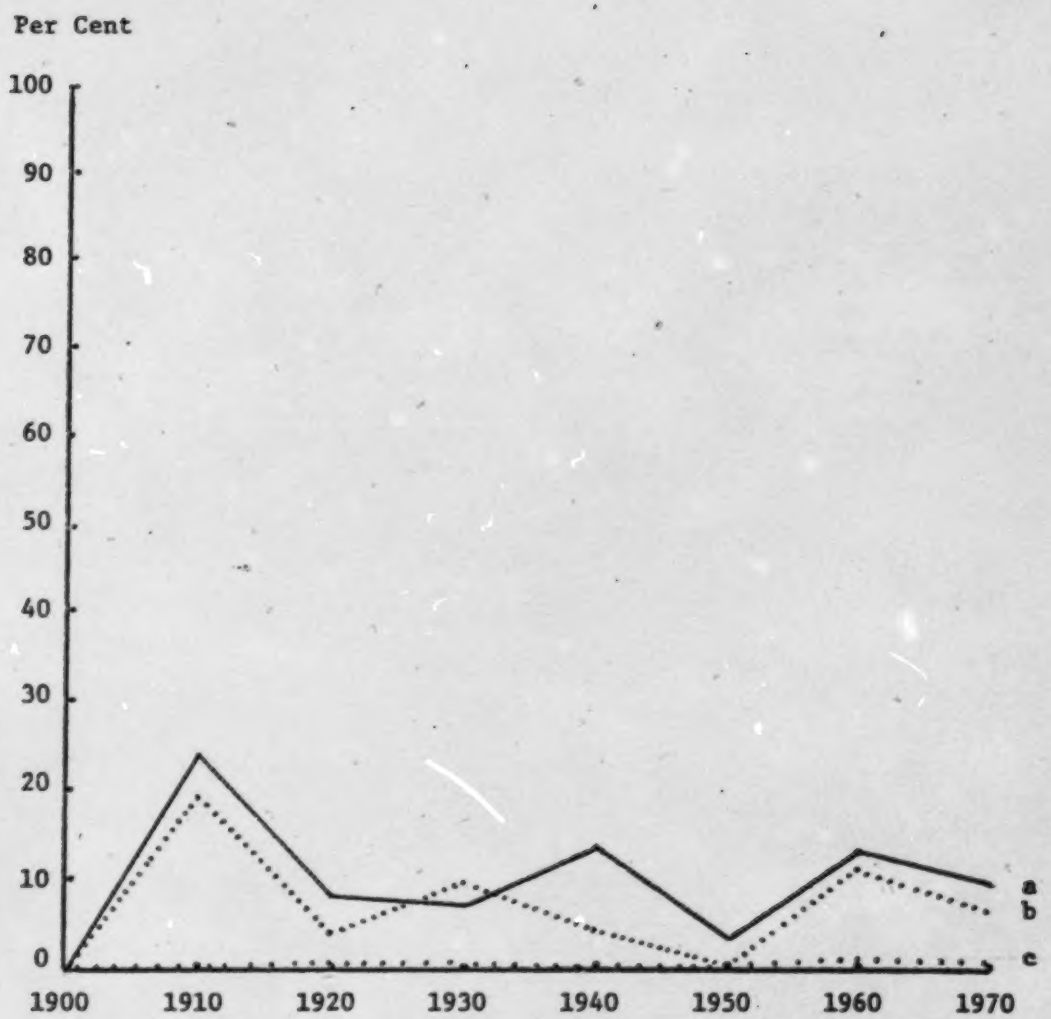

Figure 8: Female trends in: a. child role, b. unassembled, c. group.

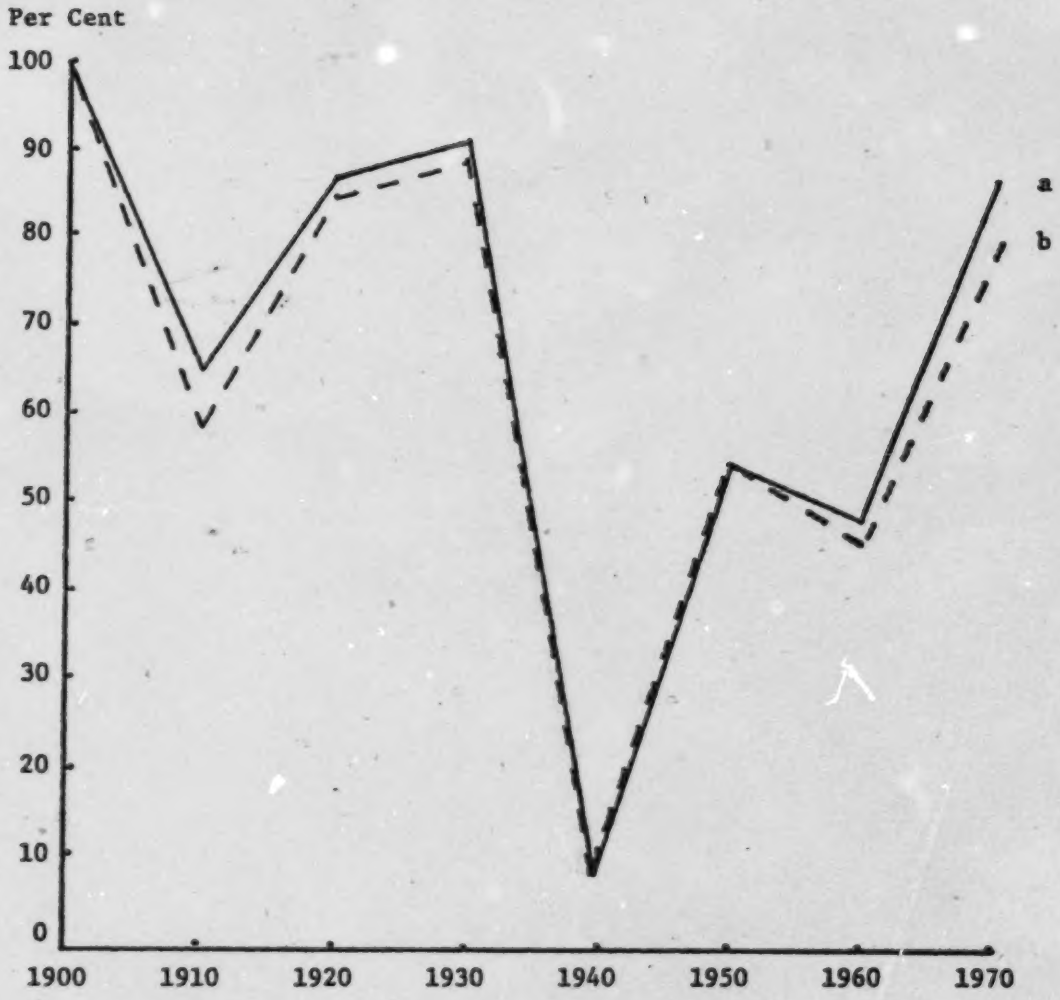

Figure 9: Female trends in: a. sedentary, b. indoor.

Analysis of Significance of Data Results

An enormous amount of information, some highly significant and some trivial, appears in the pages of this research paper. The fact that the study unearthed so much data is not surprising, but the content is. If we look at Sears catalogues as a reflection of our contemporary American value system and Sears toys as socializing agents of the future, then we have learned interesting and perhaps valuable information about possible anticipated sex role behavior in the next few decades. The toys studied here are probably representative of those that are socializing adults of the 70's, 80's and 90's.

Major changes in the male related characteristics have occurred since World War II. The toys of 1900 encourage boys to be rowdy, noisy, boisterous and gregarious. Changes over time now emphasize comparatively quiet, reflective, passive, sedentary and solitary play behavior. It would appear, as shown in Table XIX, that the characteristics most often male dominated are the characteristics which we traditionally associate with masculinity. Table XX, however, shows that in recent years these characteristics are not, in fact, the strongest ones exhibited by male toys. By 1970, in seven of the thirteen categories the predominant male characteristics changed to those most closely associated with female toys during the seventy year period. The temptation to project trends and imagine a hypothetical "profile" of the male characteristics similar to those listed for 1900-1970 in Table XX is too great to resist. The thirteen categories might be classified as: indoor, competitive, individual, sedentary, preassembled, unmechanized, role preference, one half skill, one half entertainment, one half task, one half pastime, non family, play

predetermined, needs accessories, non grooming. This contains six out of thirteen instances of male characteristics "flip flopping" over into areas which have been most closely associated with female toys.

There has been a lack of change in the female characteristics equally dramatic by its restrictive nature. While male sex related characteristics have shown amazing fluctuations and potential for positive growth in male sex role definitions, female sex related characteristics have changed little, presenting females with narrowly defined sex role possibilities. One important change, however, is in the area of the child's role during play. Females are increasingly encouraged to define their own role, self-actualize as it were. This could make an important difference in the future woman's self image and the sense of importance she places on her work, whether it be in or out of the home. We may go on socializing miniature homemakers with the toys Sears presented for girls but at least they will be increasingly "thinking" and self-determining homemakers.

Interestingly, a projection of trends in female toy characteristics creates a "profile" for the future which shows several subtle shifts. There are five areas where the female toys might be equally represented in more than one classification within each category. These are in the areas of Role of Player (adult and role preference, but not child), Form of Play (skill, service and entertainment), Purpose of Play (creative and pastime, but not task), Relationship to the Environment (family and non family) and Instructional Nature (grooming and non grooming). In the other areas the anticipated emphases will be on indoor, noncompetitive, individual, sedentary, preassembled, unmechanized, child invents play behavior and needs accessories.

Finally, comparing the two hypothetical "profiles" for males and females of the future we are surprised at the similarities between the characteristics and changes from the polarization of the past. In fact, because so many of the male characteristics have changed to those commonly feminine and because so many of the female characteristics have broadened in their representation we have a decreasing rate of differentiation between the sex role characteristics emerging in the future.

Extraneous Findings and Additional Suggestions

Many ideas and findings were not reported here because they were not within the focus of the research. They are, however, interesting possibilities to consider. I shall briefly run through them:
What would another catalogue source, Creative Playthings perhaps, yield as a comparison in sex typing toys?

What was the sex typing of toys in Sears before 1900 like?

Why was 1940 atypical in sex typed toy data trends?

What would we learn about the acceleration of changing sex role interpretations from studying each of the years in the 1960's?

Why are male creative toys designed for use by groups? Don't boys need individual, reflective, expressive play as much as girls?

Why are male and female rates of indoor and sedentary play increasing when our national concern is supposed to be with physical fitness and the problem of being overweight?

In what ways and at what rate are greater numbers of toys being designed

to require more and more supportive paraphanalia? Dolls have always needed dresses, dishes and buggies but what is causing the tremendous rise in male toys in this area?

How will the traditional "summer afternoon under the sprinkler, kick the can, hide 'n seek" stereotype of childhood memory be changed over time with the continuous rise in sedentary indoor characteristics?

Does the strong increase in entertainment indicate that children playing with future Sears toys will be entertained more and taught fewer skills?

Does the combined rises in entertainment and pastime percentages suggest future toy characteristics lacking productivity, accomplishment, cooperation, tangible teaching value or personal expression?

What does the correlation between service and child invents characteristics in female toys mean for the adult woman who seeks to relieve the monotony of service functions in her role?

And, what does the negative correlation between group and creative characteristics for females mean for the adult woman who spends a great deal of her time interacting in women's groups?

There is a personal meaning to this research and a message within the pages of this paper. It is addressed to the population which tolerates and even promotes sexism. It points out the danger of narrowly defined sex role definitions which oppress and frustrate the potential of the child. It suggests that a greater understanding of sex role socialization can aid future generations in achieving cooperative strength and

greatness between the sexes by viewing roles less rigidly and reinforcing behavior beneficial to the child rather than his/her role. The freedom of future generations of men and women to be self determining about their sex role interpretation and behavior may depend on understanding how the child learns, what he learns and how he uses it.

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APPENDIX A

PLATES OF SEX TYPED TOYS

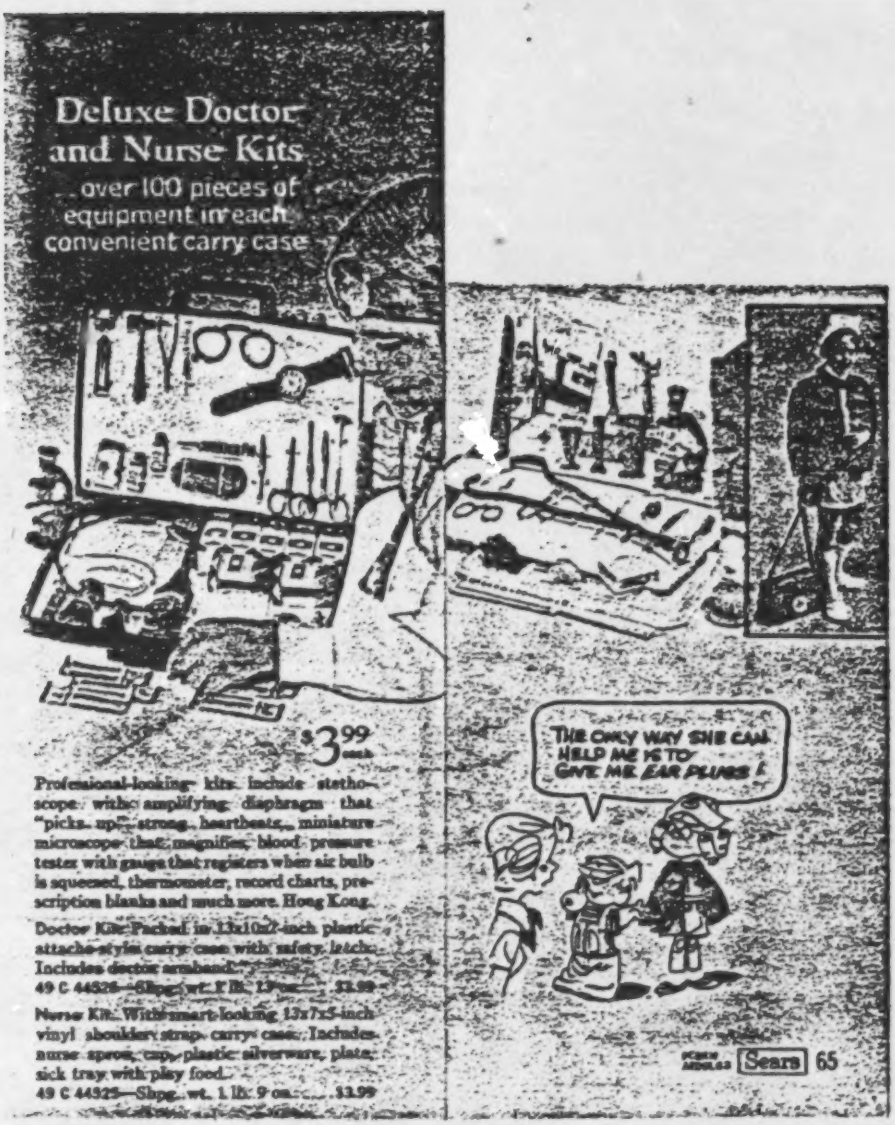
Deluxe Doctor and Nurse Kits
...over 100 pieces of equipment in each convenient carry case
$3.99 each
Professional-looking kits include stethoscope with amplifying diaphragm that "picks up" strong heartbeats, miniature microscope that magnifies, blood pressure tester with gauge that registers when air bulb is squeezed, thermometer, record charts, prescription blanks and much more. Hong Kong.
Doctor Kit: Packed in 13x10x2-inch plastic attache-style carry case with safety latch. Includes doctor armband.
49 C 44326—Shpg. wt. 1 lb. 13 oz. ... $3.99
Nurse Kit: With smart-looking 13x7x5-inch vinyl shoulder strap carry case. Includes nurse apron, cap, plastic silverware, plate, sick tray with play food.
49 C 44325—Shpg. wt. 1 lb. 9 oz. ... $3.99
THE ONLY WAY SHE CAN HELP ME IS TO GIVE ME EAR PLUGS !
Sears 65

Plate 1

Male Sex Typed Toy

Plate 2

Female Sex Typed Toy

Action on the high seas. The "dangerous" spy, armed with mock anti-radar, tries to get his ships from headquarters to Austin Bay or Grant's Quay and back again. Can you capture him? You can track him with the mock radar indicator in your helicopter. The odds are even. A buzzer signals the capture. Two-sided 11x13-inch plastic set has scanner with compass dial, illuminated radar screen and playing field map on either side, flipped cables and tracking pieces. Uses 2 "D" batteries, order package below. Excitement and thrills for youngsters aged 8 and up.

49 C 65495—Shipping weight 2 pounds..... 4.85

49 C 8405—"D" Batteries. Package of 6. Wt. 1 lb. 8 oz.....Package 1.49

Plate 3

Male Sex Typed Toy

Load your cannon with 4 balls and aim at one of the 3 wooden around-game-board. Player with most balls in basket wins. Sturdy molded metal game board comes with 4 plastic cannons, 12 balls and 1 battery-operated seal. Uses 1 "C" battery, order package below. Ages 6 and up.

79 C 6301—Shipping weight 4 pounds.....

"C" Batteries. Package of 4.....

49 C 8406—Shipping weight 12 ounces.....Pkg. 1.19

Plate 4

Male Sex Typed Toy

A 54-inch Pool Table
with rigid ½-inch bed
Cut $5 to only $44.99 ???
YES! RIGHT HERE IN THE WISH BOOK
. . . all the right answers for your holiday shopping
Automatic Ball-Return
Built-in Dual Dial Scorekeepers
Sturdy molded end panels with no-wobble legs

Plate 5

Male Sex Typed Toy

Indoor-Outdoor Game Set $4.99
Plastic-coated table and 2 stools with over 100 games
Games galore! Checkers, Pyramid, Dial Bingo and many others. Solidly constructed corrugated fiberboard (not wood or hardboard) game table and 2 stools are plastic-coated with stain-resistant finish. Just wipe clean with damp cloth. 30x18½x13½-in. table folds flat for easy storing. 9½-in. high stools support up to 200 lbs. Use table on the beach, for auto trips, picnics, or indoor play. All games come complete with game parts and instructions packed in a plastic bag for storage. Unassembled. Buy it the easy way—order by phone.
79 C 65567C—Shipping weight 5 pounds..... Set $4.99

Plate 6

Female Sex Typed Toy

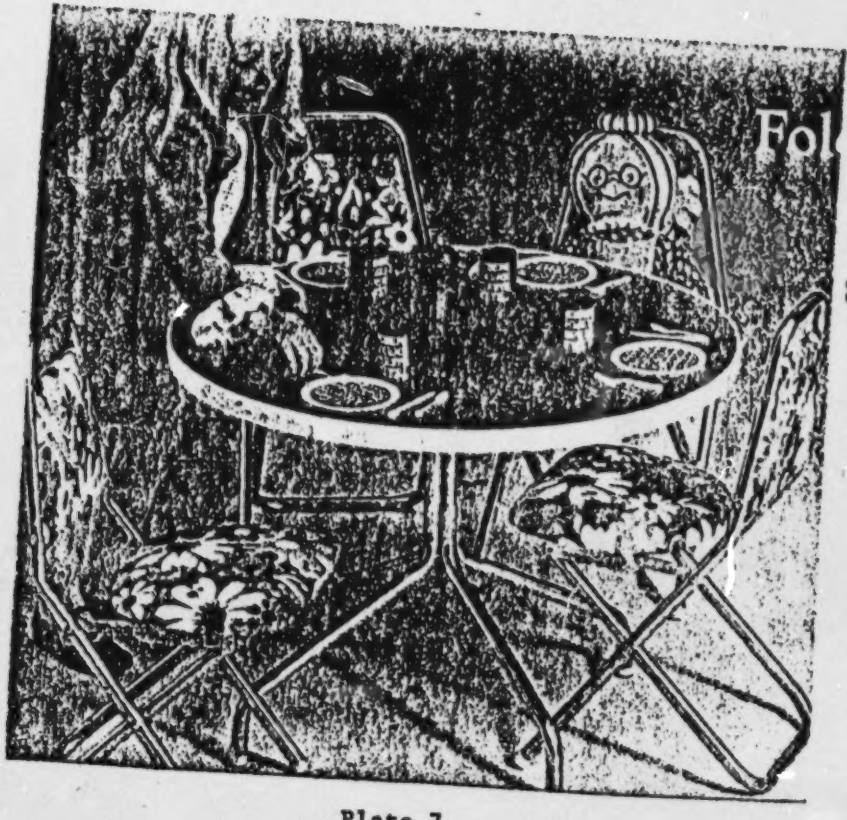

Plate 7

Female Sex Typed Toy

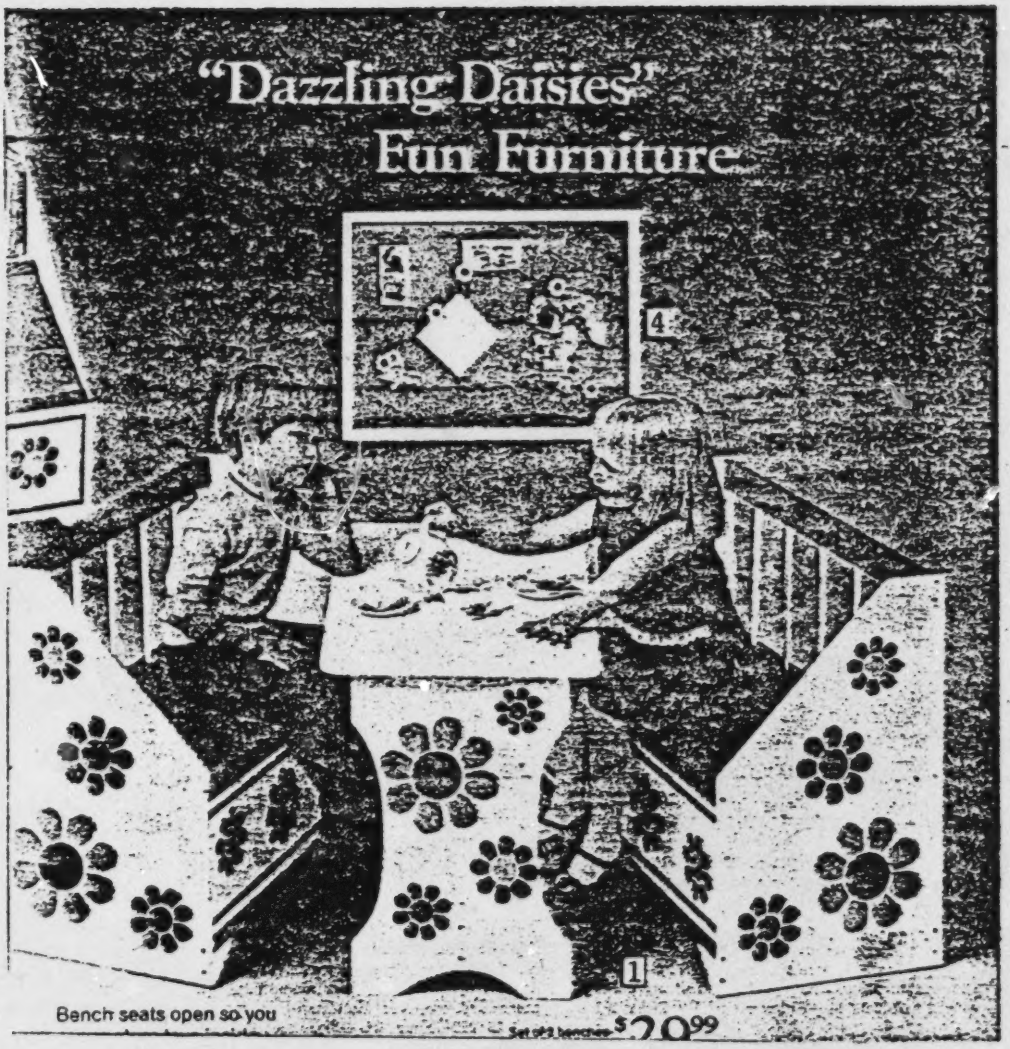

Plate 8

Mixed Sex Typed Toy

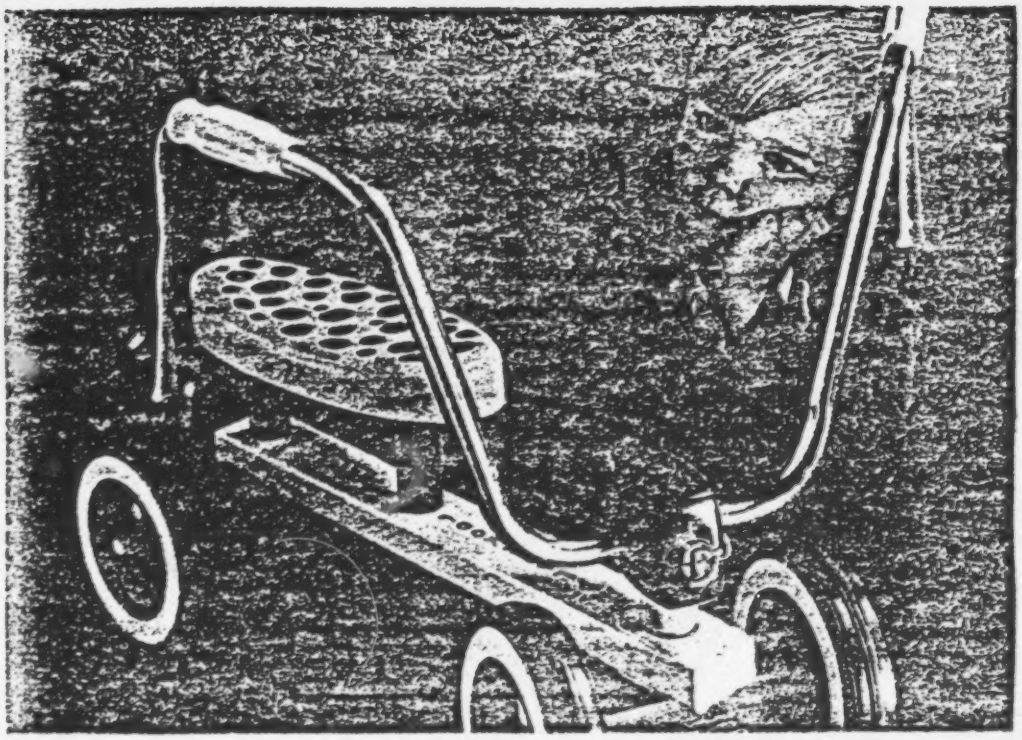

Plate 9

Male Sex Typed Toy

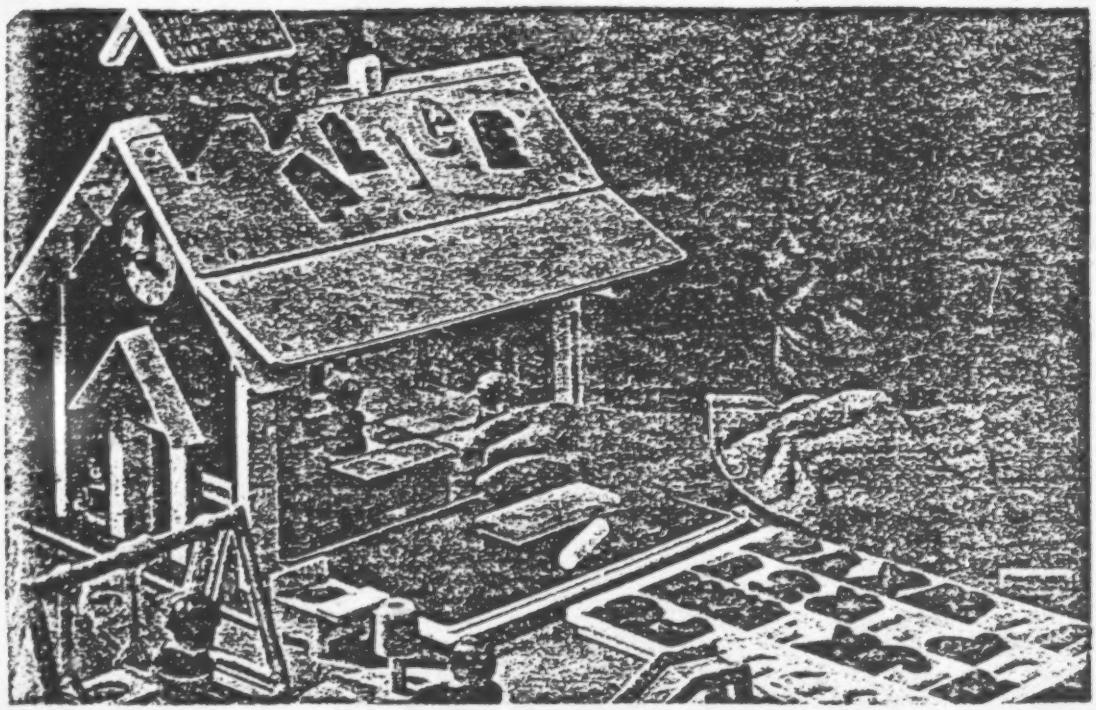

Plate 10 69

Female Sex Typed Toy

APPENDIX B

SPECIMEN CODING SHEET

APPENDIX C

TABLES I - XIV

TABLE I

SEX BY DECADE

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
MALE	8.9	26.1	30.8	37.2	23.3	46.7	45.8	25.3
FEMALE	35.5	38.1	39.4	31.5	18.0	14.3	23.7	27.4
MIXED SEX	55.6	34.8	29.8	31.3	58.6	39.0	30.4	47.3

TABLE II

PLAY LOCATION
(Indoor, Outdoor, Either)

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
INDOOR*	73.8	70.0	71.8	65.2	33.8	46.7	38.7	75.5
Male	-	58.1	50.0	23.6	16.1	34.7	36.6	59.7
Female	98.7	59.1	84.5	89.8	8.3	53.3	46.4	78.3
Mixed Sex	69.7	91.2	77.7	90.1	48.7	58.5	35.9	82.3
OUTDOOR*	16.8	6.5	17.3	22.9	32.3	32.4	20.0	13.7
Male	94.7	21.5	38.8	53.2	54.8	53.1	23.3	30.9
Female	-	.5	5.6	2.0	-	3.3	1.4	6.1
Mixed Sex	15.1	2.0	10.4	7.8	33.3	18.3	29.6	9.1
EITHER*	9.3	23.5	10.9	11.8	33.8	21.0	41.3	10.8
Male	5.3	20.4	11.2	23.3	29.0	12.2	40.1	9.5
Female	1.3	40.4	9.9	8.1	91.7	43.3	52.2	15.7
Mixed Sex	15.1	6.8	11.9	2.0	17.9	23.2	34.6	8.6

*Unsex Differentiated "General" Sample

TABLE III

NATURE OF PLAY
(Competitive, Noncompetitive, Choice of Player)

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
COMPETITIVE*	26.2	12.9	7.8	19.0	21.8	9.0	7.6	13.6
Male	-	1.5	4.7	22.4	-	4.1	5.4	23.6
Female	-	-	.6	.3	-	-	-	.4
Mixed Sex	47.1	36.0	20.4	33.7	37.2	18.3	16.9	16.0
NONCOMPETITIVE*	64.0	83.8	85.8	70.1	66.2	78.6	74.9	76.6
Male	42.1	87.2	78.8	49.4	87.1	74.4	59.2	57.5
Female	100	99.7	96.3	99.7	100	100	100	96.6
Mixed Sex	44.5	63.5	79.2	65.0	47.4	78.0	78.9	75.5
EITHER*	9.8	3.3	6.4	10.9	12.0	12.4	17.5	9.7
Male	57.9	11.3	16.5	28.2	12.9	23.5	35.4	18.9
Female	-	.3	3.1	-	-	-	-	3.4
Mixed Sex	8.4	.6	.4	1.4	15.4	3.7	4.2	8.5

*Unsex Differentiated "General" Sample

TABLE IV

NUMBER OF PLAYERS
(Individual, Group, Either)

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
INDIVIDUAL*	50.9	65.4	72.1	75.6	53.4	61.0	62.1	71.0
Male	10.5	53.2	71.2	69.8	58.1	44.9	52.4	61.8
Female	86.8	85.9	86.5	99.3	100	93.3	95.6	85.2
Mixed Sex	34.5	51.6	53.9	58.5	37.2	68.3	50.7	67.8
GROUP*	27.6	12.6	6.0	13.5	25.6	8.1	6.9	8.5
Male	-	.4	1.8	8.9	-	1.0	4.2	12.7
Female	-	-	.6	.7	-	-	.7	.4
Mixed Sex	49.6	36.0	17.5	32.7	43.6	19.5	15.8	10.8
EITHER*	21.5	22.0	22.0	10.9	21.1	31.0	31.0	20.5
Male	89.5	46.4	27.0	21.3	41.9	54.1	43.4	25.5
Female	13.2	14.1	13.0	-	-	6.7	3.7	14.4
Mixed Sex	16.0	12.5	28.6	8.8	19.2	12.2	33.5	21.4

*Unsex Differentiated "General" Sample

TABLE V

ACTIVITY OF PLAYERS
(Sedentary, Mobile, Either)

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
SEDENTARY*	71.0	76.2	74.8	69.5	27.1	45.2	44.7	76.5
Male	10.5	78.9	58.3	38.8	19.4	38.8	47.3	63.5
Female	98.7	64.6	86.5	90.8	8.3	53.3	48.1	87.2
Mixed Sex	63.0	87.3	76.6	84.7	35.9	50.0	38.3	77.3
MOBILE*	19.6	5.9	15.4	21.3	35.3	32.9	24.7	9.9
Male	57.9	14.7	30.6	49.4	58.1	53.1	24.0	21.8
Female	-	.5	4.5	.3	-	-	7.1	3.7
Mixed Sex	26.1	5.4	14.1	8.8	37.2	20.7	39.6	7.2
EITHER*	9.3	17.7	9.8	9.2	37.6	21.9	30.6	13.5
Male	31.6	6.4	11.2	11.8	22.6	8.2	28.7	14.7
Female	1.3	34.3	9.0	8.8	91.7	46.7	44.7	9.1
Mixed Sex	10.9	7.4	9.3	6.5	26.9	29.3	22.2	15.5

*Unsex Differentiated "General" Sample

TABLE VI

ASSEMBLY FORM
(Preassembled, Unassembled)

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
PREASSEMBLED*	92.1	84.7	82.4	83.8	93.2	88.6	83.7	84.6
Male	30.8	75.5	62.2	71.0	87.1	80.6	73.6	75.3
Female	100	81.1	96.9	90.5	95.8	100	89.5	92.6
Mixed Sex	95.8	95.8	84.0	92.2	94.9	93.9	94.7	85.3
UNASSEMBLED*	7.9	15.3	17.6	16.2	6.8	11.4	16.2	15.1
Male	63.2	24.5	37.8	29.0	12.9	19.4	26.4	24.7
Female	-	18.9	3.1	9.5	4.2	-	10.5	7.4
Mixed Sex	4.2	4.2	16.0	7.8	5.1	6.1	5.3	14.7

*Unsex Differentiated "General" Sample

TABLE VII

MECHANICS OF TOY
(Unmechanized, Mechanized, Other)

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
UNMECHANIZED*	94.9	75.6	76.7	73.5	93.2	62.4	68.1	65.7
Male	94.7	29.1	62.9	54.9	83.9	44.9	49.7	56.4
Female	100	98.5	92.1	91.5	95.8	93.3	95.6	82.5
Mixed Sex	91.6	85.0	70.6	77.2	96.2	72.0	74.1	61.0
MECHANIZED*	5.1	22.4	22.0	22.6	5.3	37.6	27.1	32.8
Male	5.3	70.9	33.1	40.2	16.1	55.1	47.1	40.7
Female	-	1.5	7.9	1.7	4.2	6.7	4.4	17.5
Mixed Sex	8.4	15.0	29.0	22.8	1.3	28.0	14.8	37.4
OTHER*	-	-	1.3	3.9	1.5	-	4.8	1.5
Male	-	-	4.0	4.9	-	-	3.2	2.9
Female	-	-	-	6.8	-	-	-	-
Mixed Sex	-	-	.4	-	2.6	-	11.1	1.7

*Unsex Differentiated "General" Sample

TABLE VIII

ROLE OF PLAYER
(Child, Adult, Role Preference)

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
CHILD*	17.8	27.2	25.7	60.0	77.4	44.8	34.3	18.3
Male	-	26.4	30.2	58.3	87.1	54.1	22.2	8.9
Female	-	23.0	7.6	7.1	12.5	3.3	12.5	9.8
Mixed Sex	31.9	32.6	45.0	51.0	93.6	48.8	69.7	28.4
ADULT*	41.1	44.6	43.1	41.2	19.5	26.2	34.4	21.8
Male	10.5	49.4	20.1	14.9	3.2	17.3	22.8	19.1
Female	100	75.3	84.8	81.0	87.5	83.3	84.1	39.0
Mixed Sex	8.4	6.5	11.9	32.3	5.1	15.9	13.2	13.3
ROLE PREFERENCE*	41.1	28.2	31.2	18.9	3.0	29.0	31.2	59.8
Male	89.5	24.2	49.6	26.7	9.7	28.6	55.0	72.0
Female	-	1.8	7.6	11.9	-	13.3	3.4	51.2
Mixed Sex	59.7	60.9	43.1	16.7	1.3	35.4	17.2	58.2

*Unsex Differentiated "General" Sample

TABLE IX

FORM OF PLAY
(Skill, Service, Entertainment)

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
SKILL*	49.5	30.6	42.5	48.9	60.9	57.1	52.6	43.3
Male	100	31.3	75.9	72.7	67.7	87.8	73.4	65.8
Female	1.3	19.2	13.2	22.7	4.2	-	9.5	23.4
Mixed Sex	72.3	42.8	46.5	46.9	75.6	41.5	54.6	42.9
SERVICE*	33.2	35.2	34.9	22.4	25.6	19.0	21.3	14.4
Male	-	.4	.7	2.6	25.8	4.1	2.6	1.5
Female	85.5	76.5	78.0	63.7	95.8	93.3	79.7	44.0
Mixed Sex	5.0	15.0	10.4	4.4	3.8	9.8	4.2	4.0
ENTERTAINMENT*	17.3	34.1	23.5	28.7	13.5	23.8	26.1	42.3
Male	-	68.3	23.4	24.7	6.5	8.2	24.0	32.6
Female	13.2	4.3	8.7	13.6	0	6.7	10.8	32.6
Mixed Sex	22.7	42.2	43.1	48.6	20.5	48.8	41.2	53.1

*Unsex Differentiated "General" Sample

TABLE X

PURPOSE OF PLAY
(Task, Creative, Pastime)

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
TASK*	29.9	19.8	20.8	33.9	45.9	28.6	43.5	31.8
Male	10.5	23.8	22.7	28.4	32.3	40.8	58.7	45.4
Female	-	2.0	9.0	35.6	8.3	-	31.9	15.7
Mixed Sex	52.1	36.8	34.6	38.8	62.8	24.4	29.6	33.9
CREATIVE*	49.5	45.0	45.7	26.8	25.6	39.0	32.5	26.9
Male	89.5	8.3	26.3	16.1	22.6	27.6	17.7	18.1
Female	100	93.2	80.0	52.9	91.7	100	65.8	55.6
Mixed Sex	10.9	18.4	20.4	13.3	6.4	30.5	29.0	15.0
PASTIME*	20.6	35.2	33.5	39.3	28.6	32.4	24.0	41.3
Male	-	67.9	51.1	55.5	45.2	31.6	23.6	36.5
Female	-	4.8	11.0	11.5	-	-	2.4	28.7
Mixed Sex	37.0	44.8	45.0	48.0	30.8	45.1	41.1	51.1

*Unsex Differentiated "General" Sample

TABLE XI

RELATIONSHIP TO ENVIRONMENT
(Family, Non-family, Either)

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
FAMILY*	43.5	46.4	40.2	38.0	15.8	19.0	17.7	22.7
Male	-	17.5	1.8	2.6	3.2	12.2	1.1	1.4
Female	98.7	77.5	83.9	87.1	83.3	83.3	68.8	59.5
Mixed Sex	15.1	25.5	22.3	30.6	-	3.7	3.2	12.8
NON-FAMILY	56.5	53.6	59.8	61.8	84.2	81.0	80.7	77.1
Male	100	72.5	98.2	97.4	96.8	87.8	97.4	98.6
Female	1.3	22.5	16.1	12.9	16.7	16.7	27.8	40.5
Mixed Sex	84.9	74.2	77.7	68.7	100	96.3	96.8	87.2
EITHER*	-	-	-	-	-	-	-	-
Male	-	-	-	-	-	-	1.6	-
Female	-	-	-	-	-	-	3.4	-
Mixed Sex	-	.3	-	.7	-	-	-	-

*Unsex Differentiated "General" Sample

TABLE XII

SOURCE OF KNOWLEDGE OF PLAY BEHAVIOR
(Child Invents, Play Behavior Predetermined, Either)

Per Cent of Sample Per Ye

	1900	1910	1920	1930	1940	1950	1960	1970
CHILD INVENTS*	50.9	37.6	48.8	39.4	35.3	36.7	54.7	27.7
Male	5.3	31.3	28.1	32.2	41.9	12.2	37.0	12.9
Female	98.7	96.7	83.4	56.3	79.2	86.7	87.8	53.1
Mixed Sex	27.7	33.4	24.5	31.3	19.7	47.6	55.7	21.0
PLAY BEHAVIOR* PREDETERMINED	47.7	40.2	51.2	60.6	63.2	63.3	41.1	70.8
Male	94.7	62.3	71.9	67.8	58.1	87.8	55.0	84.6
Female	1.3	3.3	16.6	43.7	20.8	13.3	12.2	46.7
Mixed Sex	69.7	64.2	75.5	68.7	78.2	52.9	42.7	77.8
EITHER*	1.2	2.2	-	-	1.5	-	4.2	1.3
Male	-	6.4	-	-	-	-	8.1	2.5
Female	-	-	-	-	-	-	-	.2
Mixed Sex	2.5	1.4	-	-	2.6	-	1.6	1.2

*Unsex Differentiated "General" Sample

TABLE XIII

CONSUMPTION REQUIREMENTS OF TOY
(Needs Accessories, Self-inclusive, Either)

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
NEEDS* ACCESSORIES	88.8	60.5	60.6	60.1	25.6	49.5	56.7	68.0
Male	100	68.7	59.0	51.9	9.7	50.0	56.0	68.7
Female	100	81.3	88.2	82.7	79.2	96.7	86.4	77.0
Mixed Sex	79.8	30.9	26.0	47.6	15.4	31.7	34.8	62.6
SELF-INCLUSIVE*	11.2	39.5	39.4	39.8	74.4	50.5	43.3	31.8
Male	-	31.3	41.0	48.1	90.3	50.0	44.0	31.3
Female	-	18.7	11.8	17.3	20.8	3.3	13.6	23.0
Mixed Sex	20.8	69.1	74.0	52.6	84.6	68.3	65.2	37.4
EITHER*	-	-	-	-	-	-	-	-
Male	-	1.1	-	-	-	-	-	-
Female	-	-	-	-	-	-	-	-

*Unsex Differentiated "General" Sample

TABLE XIV

INSTRUCTIONAL NATURE
(Grooming, Non-grooming)

Per Cent of Sample Per Year

	1900	1910	1920	1930	1940	1950	1960	1970
GROOMING*	.5	6.1	5.9	13.4	-	1.0	2.9	12.4
Male	-	1.1	-	-	-	2.0	.6	.2
Female	98.7	11.6	9.9	42.4	-	100	12.5	35.7
Mixed Sex	-	3.7	6.7	.3	-	-	.3	5.2
NON-GROOMING*	99.5	93.9	94.1	86.6	100	99.0	96.9	87.6
Male	100	98.9	100	100	100	98.0	99.4	99.8
Female	1.3	88.4	90.1	57.6	100	-	87.5	64.3
Mixed Sex	100	96.3	93.3	99.7	100	100	99.7	94.8

*Unsex Differentiated "General" Sample

APPENDIX D

CORRELATION MATRIX

The Twenty Nine Variables Represented in the Significant Correlation Matrix

1. indoor
2. outdoor
3. competitive
4. non-competitive
5. individual
6. group
7. sedentary
8. mobile
9. preassembled
10. unassembled
11. unmechanized
12. mechanized
13. child role
14. adult role
15. role preference
16. skill
17. service
18. entertainment
19. taks/goal
20. creative/expressive
21. pastime
22. family
23. non-family
24. child invents play
25. play behavior predetermined
26. needs accessories
27. self-inclusive
28. grooming
29. non-grooming